



Final Report of the Qwest OSS Test

May 3, 2002

Version 3.0

Prepared For:

Arizona Corporation Commission

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Document Control Sheet

Version	Date	Reason
1.0	12/21/01	Final Report distributed to TAG for review.
1.1	03/25/02	<p>Final Report distributed to ACC with the following changes:</p> <ol style="list-style-type: none"> 1. Executive Summary – changed entire section. 2. Section 2. Functionality – under “Pretest Approach” – changed first paragraph and first bullet. 3. Section 2.1.4 Results - Table 2.1.4a – changed table and added footnote. 4. In Section 2.1.4 Results – under Table 2.1.4a, added table and text to describe orders executed during the retest effort to determine the accuracy of Address Validation transactions for loop qualification. 5. Section 2.1.4 Results – after Table 2.1.4a - changed paragraph that begins “The integration quality of pre-order and order data for IMA-GUI.....” Also, added paragraph that begins “It should be noted that these observations are not indicative.....” 6. Section 2.1.4 Results – added paragraph before “Exit Criteria” section. 7. Section 2.2.3 Process – under “Monitoring” – changed second paragraph. 8. Section 2.2.4 Results – made changes throughout section. 9. Section 2.3 Process – changed text and added table to “Service Validation.” 10. Section 2.3.4.1 CEMR Results – changed entire section. 11. Section 2.3.4.2 EB-TA Results – changed first sentence. 12. Section 2.4.1 Introduction – changed text for “DUF” bullet. 13. Section 2.4.2 Scope – changed text for last bullet and last paragraph. 14. Section 2.4.3 Process – changed text throughout entire section. 15. Section 2.4.4 Results – changed text throughout entire section. 16. Added Section 2.4.5. 17. Section 2.5.2 Scope – changed text throughout section. 18. Section 2.5.3 Process – changed first paragraph. 19. Section 2.5.3 Process – under “Functionality Test Data Reconciliation” – changed first paragraph. 20. Section 2.5.3 Process – under “Functionality Test Data Processing” – changed entire section. 21. Section 2.5.3.1 Performance Measurement Test Entrance

		<p>Criteria – deleted footnote from table.</p> <p>22. Section 2.5.4.1 – corrected heading and measure description for GA-2.</p> <p>23. Section 2.5.4.1 - added note to Table 2.5.4.1c. Changed second paragraph of Findings.</p> <p>24. Section 2.5.4.1 - changed Findings paragraph for Table 2.5.4.1g.</p> <p>25. Section 2.5.4.1 - changed Findings paragraph for Table 2.5.4.1h.</p> <p>26. Section 2.5.4.1 - changed Findings paragraph for Table 2.5.4.1i.</p> <p>27. Section 2.5.4.1 - changed second paragraph of Findings for Table 2.5.4.1k.</p> <p>28. Section 2.5.4.1 - changed Findings paragraph for Table 2.5.4.1l.</p> <p>29. Section 2.5.4.1 – changed Measure Description paragraph for “Jeopardy Notice Interval PO-8” (for Table 2.5.4.1p).</p> <p>30. Section 2.5.4.1 – changed Measure Description paragraph for “Timely Jeopardy Notices PO-9” (for Table 2.5.4.1q).</p> <p>31. Section 2.5.4.1 – changed Measure Description paragraph for “Installation Commitments Met OP-3” (for Table 2.5.4.1r).</p> <p>32. Section 2.5.4.1 - added “See note #1” to Table 2.5.4.1r.</p> <p>33. Section 2.5.4.1 – changed first paragraph of Findings for Table 2.5.4.1t.</p> <p>34. Section 2.5.4.1 - changed third paragraph of Findings for Table 2.5.4.1u.</p> <p>35. Section 2.5.4.1 – changed Measure Description paragraph for “Delayed Days OP-6” (for Table 2.5.4.1cc).</p> <p>36. Section 2.5.4.1 - changed Findings paragraph for Table 2.5.4.1ee.</p> <p>37. Section 2.5.4.1 – changed text in “Findings” for Table 2.5.4.1oo.</p> <p>38. Section 2.5.4.1 – changed text in “Findings” for Table 2.5.4.1pp.</p> <p>39. Section 2.5.4.1 – changed text in “Findings” for Table 2.5.4.1qq.</p> <p>40. Section 2.5.4.1 – changed Measure Description paragraph for “All Troubles Cleared Within 48 Hours MR-4” (for Table 2.5.4.1tt).</p> <p>41. Section 2.5.4.1 – changed text in “Findings” for Table 2.5.4.1tt.</p> <p>42. Section 2.5.4.1 – changed text in “Findings” for Table</p>
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		<p>2.5.4.1vv.</p> <p>43. Section 2.5.4.1 – changed text in “Findings” for Table 2.5.4.1ww.</p> <p>44. Section 2.5.4.1 – changed Measure Description paragraph for “All Troubles Cleared Within 4 Hours MR-5” (for Table 2.5.4.1yy).</p> <p>45. Section 2.5.4.1 – changed Findings paragraph for Table 2.5.4.1zz.</p> <p>46. Section 2.5.4.1 – added table name for BI-3, “Table 2.5.4.1rrr;” and changed Findings paragraph.</p> <p>47. Section 2.5.4.1 – added table name for BI-4, “Table 2.5.4.1sss.” Changed numbers in table and changed Findings paragraph.</p> <p>48. In Section 3.1.4.1 Timing Measures – under “Re-Analysis of Phase II,” changed first paragraph.</p> <p>49. Section 3.1.4.1 Timing Measures – under “Retail Parity Re-evaluation,” changed chart and added paragraph beneath chart.</p> <p>50. Section 3.1.4.2 Quantitative Measurements - under “Retail Parity Re-evaluation,” changed and added text beneath table, and added more tables.</p> <p>51. Section 3.1.4.3 Qualitative Measurements – changed #12 in the TSD objectives table under “TSD Section 4.1 Question” column.</p> <p>52. In Section 3.3.4 Results - changed #7 in the TSD objectives table under “TSD Section 4.1 Question” column.</p> <p>53. Section 4. Capacity Test - under “Approach” – under “System Capacity Test” – changed paragraph that begins “The System Capacity Test was originally intended to evaluate whether Qwest’s systems.....” Split paragraph and added new verbiage about success criteria.</p> <p>54. Section 4. Capacity Test – under “Approach” – under “System Scalability” – changed wording in first paragraph.</p> <p>55. Section 4.1.1 Introduction – changed second paragraph.</p> <p>56. Section 4.1.1 Introduction – changed paragraph under Figure 4.1.1a.</p> <p>57. Section 4.1.2 Scope – added PO-1 “A&B” and PO-5 “A” for clarification.</p> <p>58. Section 4.1.2 Scope - under “PO-5 Firm Order Confirmations on Time” – deleted “Access Service Requests (ASRs) and added “in terms of the PID” to first paragraph.</p> <p>59. Section 4.1.2 Scope – under “Capacity Test Orders” – changed paragraph that begins, “Finally, Qwest provided</p>
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		<p>CGE&Y with performance measurement data pertaining to the Capacity Test for PO-1 (IRTM).....”</p> <p>60. Section 4.1.3 Process – under “Pre-Order Planning,” in table that states number of pre-order queries planned for each of the Capacity Test – changed “Phase 2 (9 month)” in third row to “Phase 3 (6 month).”</p> <p>61. Section 4.1.3 Process – under “Order Planning,” in table that states total number of order transactions planned for the System Capacity Test – changed “Phase 2 (9 month)” in third row to “Phase 3 (6 month).”</p> <p>62. Section 4.1.3 Process – under “Order Planning,” statement “The System Capacity Test input mix also included:” – changed bullet #2 “Qwest ignored certain edits.....” to “Qwest ignored certain IMA edits...”</p> <p>63. Section 4.1.3.1 Test Activities – changes throughout section.</p> <p>64. Section 4.2.1 Introduction – changed last paragraph.</p> <p>65. Section 4.2.4 Results – changed first paragraph.</p> <p>66. Section 4.3.3 Process – changed third paragraph which begins, “CGE&Y reviewed Qwest’s documentation, listed above.....”</p> <p>67. Section 5. Relationship Management Evaluation – under “Approach” – added text to “Interviews” bullet.</p> <p>68. Section 5. Relationship Management Evaluation – under “4) Interface Development” – added paragraph at end.</p> <p>69. Section 5.1.2 Interviews – under “Network Interconnection” – changed footnote for SICM.</p> <p>70. Section 5.1.3 Documentation – made changes throughout entire section.</p> <p>71. Section 5.1.4 Results – in TSD objective table – changed “Comments” column for #6, #11 and #14.</p> <p>72. Section 5.2.2. Interviews – under “Information Available to CLECs on the Web” – changed text.</p> <p>73. Section 5.2.3 Documentation – under “Help Desk Relationship” – added website address to #4, made changes to #18.</p> <p>74. Section 5.2.4 Results – added table to end of section.</p> <p>75. Section 5.4 Interface Development – EDI/IMA GUI – Added sentence to first paragraph.</p> <p>76. Section 5.4.2 Interviews – changed second paragraph.</p> <p>77. Section 5.4.3 Documentation – Under “Pseudo-CLEC Experience,” added to list below first paragraph.</p> <p>78. Section 5.4.3 Documentation - under “EB-TA” – under “Documentation” – changed first paragraph.</p> <p>79. Section 5.4.3 Documentation – Added bullets for “Billing” and for “Pre-Order to Order Integration” at end</p>
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		<p>of section.</p> <p>80. Section 5.4.3 Documentation – Added paragraph to “HPC Observations” at end of section.</p> <p>81. Section 5.6 Qwest Co-Provider Industry Change Management Process – under “Background” – added text to first paragraph.</p> <p>82. Section 5.6.4 Results – added text to first paragraph.</p> <p>83. Section 5.6.4 Results – under “Deficiency #1, Explanation” – changed last sentence of last paragraph.</p> <p>84. Section 6.2.1 Master Test Plan – changed second paragraph.</p> <p>85. Section 6.2.1 Master Test Plan – changed “Performance Management Audit” to Performance Measurement Audit.”</p> <p>86. Section 6.2.4 CGE&Y/HP Interface – added second paragraph.</p> <p>87. Section 6.2.5 - changed first paragraph.</p> <p>88. Section 6.3.11 – changed section title to “AT&T/HPC/CGE&Y Interface Process.”</p> <p>89. Section 7. Findings/Conclusions/Recommendations – changes throughout section.</p> <p>90. Replaced Appendix B.</p> <p>91. Inserted diagrams in Section 3.1 IMA-GUI Pre-Order/Order.</p>
2.0	03/29/02	Final Report distributed to the TAG for review.
3.0	05/03/02	<p>Final Report distributed to TAG with the following changes:</p> <ol style="list-style-type: none"> 1. Executive Summary – under “Summary of Test Results” – changed first paragraph and table below first paragraph. 2. Executive Summary – under “Key Results and Findings” – changed second paragraph. 3. Section 2.3.4.2 EB- TA Results – in the Criterion Table – deleted footnotes for last two items in the table. 4. Section 2.4.4 Results – under “Bill Accuracy” – changed 8th bullet. 5. Section 2.4.5 Supplemental DUF Evaluation – made changes throughout section. 6. Section 2.5.3 Process – under “Functionality Test Data Processing” – added reference for Appendix R. 7. Section 4.1.2 Scope – under “Capacity Test Orders” – third paragraph below bullets – changed “Therefore, no FOCs should have been generated for these LSRs” to “Therefore, no SOC’s should”

		<ol style="list-style-type: none"> 8. Section 5.4.4 Results – in TSD Objective table – changed #5. 9. Section 7.1 Functionality Test – under “Findings” – changed first paragraph, table below second paragraph, and paragraph below table. 10. Section 7.1 Functionality Test – under “Findings” – under “Billing” – changed second paragraph. 11. Changed appendixes to have consecutive page numbers and changed Table of Contents in Appendix L, Appendix P and Appendix R to reflect new page numbers. 12. Appendix B – IWO Summary – changed Functionality #116 and #165. 13. Changed version number on reference to document entitled “Qwest Change Management Process Redesign Evaluation” wherever it appears in this Final Report.

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Executive Summary

Background

Section 271 of The Telecommunications Act of 1996 (the Act) sets forth a list of conditions that a Bell Operating Company (BOC) must satisfy before it is authorized to offer “in-region” long distance services. That list is often referred to as “The 14-point Checklist.” In accordance with the Act, the Federal Communications Commission (FCC), through a series of orders and in its approval of several §271 applications, has provided a “road map” containing specific details of what is required to meet each one of the Checklist items.

One of the principal FCC requirements is that a BOC must demonstrate that it provides non-discriminatory access to its Operations Support Systems (OSS) enabling the BOCs’ competitors (often referred to as “Competitive Local Exchange Carriers” (CLECs)) to place orders for local facilities (called Unbundled Network Elements (UNEs)) or resale services in order to install service to the CLECs’ end-user customers, to maintain and repair those facilities, and to bill customers.¹ Although it is not required by the Act to gain state approval prior to filing an FCC application, the FCC has placed significant weight on the state’s recommendation when supported by a detailed and comprehensive state record. A detailed state record assists the FCC by providing the necessary evidence to make its determination within the 90-day time frame allowed by the Act. Therefore, all applicants to date have sought state approval prior to filing an FCC application.

To determine whether a BOC provides such non-discriminatory access to competitors as required by the Act, the FCC has stated that commercial data, i.e., data from the CLEC’s actual usage of the BOC’s OSS, are preferred. However, when commercial data are absent, the FCC has relied on the results of independent, third-party testing of the BOC’s OSS to demonstrate whether a BOC has provided non-discriminatory access to its OSS. In many jurisdictions, State Commissions have engaged independent firms like Cap Gemini Telecom Media & Networks U.S., Inc. d/b/a Cap Gemini Ernst & Young (CGE&Y) to test and evaluate the BOC’s OSS.

The State Commission considers the results of such tests and evaluations to determine whether the BOC is providing non-discriminatory access. The FCC considers the State Commission’s determination and the recommendation of the United States Department of Justice (DOJ) when making its determination as whether to approve the BOC’s application. To date, the FCC has approved ten such applications, all of which were supported by a comprehensive and detailed state record, whether conducted independently by the applicant’s State Commission or conducted within an anchor state with independent affirmation by the applicant state of the sameness in the OSS with the anchor state: Verizon in New York, Massachusetts, Connecticut, Pennsylvania and Rhode Island; and Southwestern Bell Communications, Inc. (SBC) in Texas, Oklahoma, Kansas, Arkansas and Missouri.

¹ New York 271 Order at Par. 83.

In its orders granting authority to offer “in-region” long distance services, the FCC established certain standards that apply to the testing and evaluation of the BOC’s OSS. Specifically, when the applicant relies on third-party testing as evidence of non-discriminatory OSS access, two types of testing and evaluation are required:

- Functionality testing
- Capacity testing

Testing and evaluation are necessary in each of the five OSS functions: pre-ordering (including access to loop qualification information), ordering, provisioning, maintenance and repair (M&R) and billing.

The Qwest Arizona OSS Test

Consistent with the requirements of the Act, the Arizona Corporation Commission (ACC) engaged Doherty and Company, Inc. (DCI) to develop a Master Test Plan (MTP) for the Qwest Arizona OSS Test. In addition, the ACC engaged CGE&Y to serve as the Test Administrator, and Hewlett Packard (HP) to serve as the Test Generator or Pseudo-CLEC. A Test Advisory Group (TAG) was formed, consisting of CGE&Y, HP, the ACC, DCI, and all other interested parties, including Qwest and CLECs such as AT&T, WorldCom, Cox Communications and Covad. The formation of the TAG ensured openness by allowing all parties to contribute to the test process, and provided a forum for the scrutiny of test results.

The MTP was designed to contain the overall requirements for the OSS Test. At the direction of the ACC, the initial MTP was developed by DCI. In late 1999, ownership of the MTP was granted to CGE&Y. At this point, changes to the MTP were a collaborative effort and were only made with the approval of the TAG. The MTP was docketed in April of 2000 and was used as the foundation for the development of detailed test plans.

In January 2000, the TAG determined that a more detailed test plan should be developed to supplement the MTP. Working in a collaborative effort for more than five months, the TAG developed such a plan, which is known as the Test Standards Document (TSD). One of the major requirements of the TSD was for CGE&Y, as Test Administrator, to identify suspected deficiencies in Qwest OSS and issue Incident Work Orders (IWOs), which were to be distributed to all TAG members for review and comment. All test participants were also encouraged to bring suspected deficiencies to the attention of the Test Administrator for review. Qwest was required to provide a response to each IWO. All parties were then allowed an opportunity to comment on Qwest’s response and CGE&Y’s evaluation. CGE&Y carefully reviewed the parties’ comments and determined whether additional information, testing or evaluation was necessary. Once CGE&Y verified that the issue identified in the IWO was satisfactorily addressed by Qwest, a Performance Acceptance Certificate (PAC) was distributed to all parties and the IWO was closed. Any party that disagreed with that closure could raise their concerns at regularly scheduled TAG meetings. If the parties could not reach agreement on the closure, the IWO was sent to “impasse,” i.e., referred to the ACC for resolution. Of the more than 230 IWOs issued during the OSS Test, and the 128 issued during the Performance Measurement Audit (PMA) and closed by

CGE&Y during the test, only 6 were taken to impasse by any party. The resolution of those IWOs is currently pending at the ACC.

At the outset of the Qwest Arizona OSS Test, the TAG also decided that CGE&Y would conduct an extensive PMA. The PMA was the first of its kind, unique to Arizona and addresses concerns raised in other jurisdictions as to the accuracy of the BOC's reported performance measurement results. This is especially important as the volume of services provided by CLECs increases and future determinations of quality of service provided by the BOCs is based on published performance measurement results.

The Arizona PMA was originally intended to ensure that the results from the test would be accurately calculated and reported. The TAG was an integral part of this process. Numerous TAG meetings were held during which the sections of the PMA were discussed and agreement was reached by the TAG that the audit results were satisfactory and OSS testing of the particular function could begin. During the PMA, CGE&Y identified numerous deficiencies resulting in the issuance of 128 IWOs all of which were resolved by Qwest by the fall of 2001.

CGE&Y began Phase I of the OSS test in December 2000.

In designing the Arizona §271 test, the ACC took unprecedented steps to ensure that the test process would remain completely "open," i.e., all parties would be afforded every opportunity to participate in the test, thoroughly review and analyze the results in an open forum, and raise issues during each phase of the test. This openness policy was developed by the ACC and is described in Appendix F of the MTP. CGE&Y operated in accordance with this policy to ensure that openness was achieved during each phase of the Qwest OSS test. In addition to establishing the TAG, the ACC took several steps to further support this open process:

- It established a robust TAG meeting schedule, a master issues log, and a record of action items and tracking of their completion. During the OSS Test process more than 50 TAG meetings were conducted, each providing the CLECs with an opportunity to raise issues in an open forum.
- It established a Document Viewing Room in which CGE&Y and HP placed all appropriate test documentation. Such an extensive viewing room is unique to Arizona; no other State Commission to date has provided a similar method for the parties to view the OSS Test record. Tens of thousands of documents and hundreds of electronic files have been placed in the Qwest Arizona OSS Test Document Viewing Room for all parties to inspect and--subject to the terms of the Commission's Protective Order--copy. The Document Viewing Room was established in July 2001 and supporting test data have continued to be added to coincide with specific workshop schedules and as additional testing continued. CGE&Y made every effort to ensure documentation was provided allowing all parties sufficient opportunity for review. In addition, CGE&Y and HP made copies of more extensive electronic files and made them available to parties on CDs, to further facilitate their review of the test and its associated documents.

- It required CGE&Y to issue interim reports after completion of each part of the OSS Test. After each such interim report was issued, the ACC conducted multi-day workshops. The number of interim reports that were published, and the number of workshops held were unique and unprecedented for a §271 engagement and allowed all parties to comment on virtually every aspect of the test. Prior to each of the workshops, parties were encouraged to pre-file written questions related to the interim report, and CGE&Y was required to provide written responses prior to the workshop. The CLECs issued more than 1200 pre-filed questions, covering every aspect of each test. CGE&Y and HP provided written responses to each question, many of which required extensive investigation and analysis. In addition, during the workshop, the parties were permitted to present their own evidence related to the interim report. The parties were also allowed to direct follow-up or additional questions to CGE&Y and HP witnesses responsible for the interim report. Each of the workshops were transcribed and the transcripts made available to all parties. Following each workshop, the parties filed briefs on the workshop and the interim report. CGE&Y, in conjunction with the ACC staff, considered the input from the pre-filed questions, the interim workshops and the parties' briefs to determine whether any additional testing or evaluation was needed, as well as to make any appropriate edits to the reports.

Upon completion of the interim workshops and additional testing and evaluations, CGE&Y incorporated its findings and relevant CLEC comments into the interim reports and provided the parties and the ACC with a Draft Final Report of the Qwest OSS Test. The Draft Final Report also included overall findings, conclusions and recommendations. After the CLECs were provided a sufficient opportunity to review the Draft Final Report, the ACC conducted a workshop intended to cover revisions or additions since issuance of the interim reports, but followed the same procedure used for the workshops on the interim reports.

Following is a chart providing quantitative information about each of these workshops:

Test Section	Workshop Length	Pre-filed Questions
Retail Parity Evaluation	3 days	161
Relationship Management Evaluation	2.5 days	291
Capacity Test	2 days	197
Functionality Test	5.5 days	442
Draft Final Report of the Qwest OSS Test	5 days	233

For all these reasons, the ACC can be assured that the thorough and exhaustive Qwest Arizona OSS Test has been the most open, most extensive and most collaborative §271 OSS test conducted to date by any State Commission.

Summary of Test Results

CGE&Y identified a number of documentation, process, training and system issues during the testing and evaluation of the Qwest OSS. CGE&Y issued 232 IWOs during the Qwest OSS Test to address these issues. The following table identifies those IWOs by test type,

and the action taken to address or resolve the incident. This table does not include 48 IWOs that were either withdrawn or where no action was required and 128 IWOs that were created during the PMA. (See CGE&Y's PMA Final Report for details concerning the PMA IWOs.)

	OSS Improvements Initiated	System Tables	Training Updates	Procedure	Metrics	Documentation	TOTAL
Functionality	44	7	22	29	28	9	139
Retail Parity	0	0	3	3	0	7	13
Capacity	3	0	0	0	0	0	3
Relationship Management	1	0	7	7	0	14	29
TOTAL	48	7	32	39	28	30	184

This report describes the activities conducted by CGE&Y during the Arizona §271 Test, as well as its findings, conclusions and recommendations. Below is a brief summary of each test area. More detailed results can be found in Sections 2 through 5 of the report.

- Functionality Test (Section 2)

Test Scope

The purpose of the Functionality Test was to determine whether Qwest has developed sufficient electronic functions and manual interfaces to allow competing carriers access to all of the necessary OSS functions in each of the following areas:

- Pre-Ordering (Section 2.1 and 2.5.4.1)
- Ordering and Provisioning (Section 2.2 and 2.5.4.1)
- Maintenance and Repair (M&R) (Section 2.3 and 2.5.4.1)
- Billing (Section 2.4 and 2.5.4.1)

As part of the collaborative effort, the Functionality Test was designed by the TAG to be executed in phases aligned with these areas. To further ensure an open test environment, each phase of the test required approval by all TAG members prior to execution. The execution of each phase would begin as the PMA was completed on the specific measures pertaining to that phase. Completion of a phase of the PMA included analyzing the findings and results of the applicable measures during the TAG meetings to ensure that all parties were satisfied. After agreement was reached, that phase of the Functionality Test could begin.

During extensive pre-order testing, more than 10,000 transactions were executed. In the ordering and provisioning test, more than 1,700 orders were successfully executed; during M&R testing, more than 80 troubles were reported. The billing evaluation involved a thorough validation of all Resale and UNE bills. In addition, two months of Rated Usage was evaluated.

The Functionality Test scenarios were defined by the MTP. To comply with MTP and TSD requirements, CGE&Y developed test cases from these scenarios that allowed the capture of data to calculate performance measures.

In addition to determining whether the required functionality was provided, the Functionality Test also reported on Qwest's performance in each of these areas so the ACC could determine whether Qwest's systems are capable of providing non-discriminatory access to each of the functions of their OSS.

Appendix C of the MTP listed each measure and sub-measure on which CGE&Y was required to report during the test. These measures are a subset of the Arizona §271 Performance Indicator Definitions (PIDs). Many of these measures required CGE&Y to report at certain levels of disaggregation, e.g., by geographic area or by product type. CGE&Y analyzed more than 200 performance measure disaggregations to evaluate Qwest's performance.

The Arizona PID established the standards that were to be used for each measure. For OSS functions that are analogous to those that Qwest provides to itself, its affiliates or its own customers, the appropriate standard determination was whether Qwest provided these functions to the CLECs at parity levels. Thus, the TSD provided that CGE&Y was to compare Qwest's retail results to those of the Pseudo-CLEC. In addition, the TAG requested that CGE&Y also compare Qwest retail results to those of commercial CLECs. For OSS functions without a retail analogue, the standard was whether the access provided by Qwest was sufficient to allow a competitor a meaningful opportunity to compete, i.e. "benchmark measures." For "benchmark measures," the TSD provided that CGE&Y was to report results against established benchmarks. For the remaining measures or sub-measures, the TSD provided that results would be "diagnostic only," i.e., they would be reported without reference to a standard.

To calculate these performance measures, CGE&Y used performance data reported by Qwest, also known as "Qwest adhoc data," that was verified and reconciled with data independently collected by the Pseudo-CLEC. CGE&Y performed an extensive data reconciliation to ensure that all records submitted by the Pseudo-CLEC were included in the Qwest ad-hoc data. The results of this reconciliation can be found in Appendix L of this report. In addition, CGE&Y performed independent calculations with the data collected by the Pseudo-CLEC to ensure that the key data elements observed during testing matched those contained in the Qwest adhoc data. The results of this analysis can be found in CGE&Y's Functionality Test Results Comparison (FTRC) Report. As previously discussed, CGE&Y conducted an extensive PMA to verify and establish that once the data were gathered, the results as reported by Qwest were compliant with the PID. The PMA validated that Qwest's code, as written, would gather the correct data, and once collected, Qwest was accurately applying business rules and exclusions and, calculating and reporting measures as agreed to by the parties. In addition, CGE&Y performed tasks such as ride-alongs with Qwest technicians to validate the source data, where possible. The execution of the PMA was a collaborative effort requiring the issuance of interim reports, which allowed all parties

to review and approve the results. This process is discussed more extensively in CGE&Y's Performance Measurement Audit - Final Report.

Test Activities

Execution of the Functionality Test portion of the Qwest Arizona OSS Test began in December 2000. Every aspect of the test, from planning through execution, was unprecedented in its openness; with TAG members provided every possible opportunity to comment on virtually every phase of the test. This thorough and comprehensive test included the execution of over 1700 service orders covering an extensive array of products and services and was conducted in strict accordance with MTP and TSD requirements. This test took more than six months to complete, during which time all parties were kept informed of its progress. During the test, 232 IWOs were issued, evaluated and closed by CGE&Y in accordance with Appendix I of the TSD.

A Functionality retest was conducted during the fall of 2001; this test was specifically designed to test system and process improvements implemented by Qwest as a direct result of the deficiencies that CGE&Y uncovered during the initial Functionality Test. Significant issues identified during the Functionality Test, i.e., notifiers (FOCs, SOC, Jeopardy, and Reject notices) and Customer Service Record (CSR) updates, were addressed during retest. As in the initial test, all parties were kept informed of testing progress and were provided every opportunity to comment.

A supplemental Daily Usage File (DUF) evaluation and retest was conducted in the first quarter of 2002, after Qwest added access records for Unbundled Network Elements-Platform (UNE-P) lines to the DUF reporting process in late 2001. CGE&Y specifically focused on evaluating the accuracy and timeliness of DUF records during account migrations from Retail to UNE-P and Retail to Resale.

Key Results and Findings

CGE&Y found that Qwest frequently used the Firm Order Confirmation (FOC) process to communicate a Due Date Jeopardy, or a Reject message after receipt of an initial FOC. CGE&Y issued IWOs on Qwest's FOC process. Qwest responded with a White Paper detailing the FOC process. During the retest, CGE&Y validated that Qwest is providing FOCs to CLECs in accordance with their published process. During the Functionality Test, CGE&Y also found that Qwest did not deliver a Service Order Completion (SOC) on completed orders approximately 25% of the time. CGE&Y issued IWOs for this deficiency, and once Qwest instituted improvements, CGE&Y validated that this issue did not recur during the retest period.

CGE&Y encountered numerous billing discrepancies during the Functionality Test. Qwest responded that these discrepancies were primarily the result of human error and that training was provided to the individuals and teams to prevent future occurrences. As a result, Qwest has implemented a system enhancement to reduce the likelihood of human error, and issued internal communications to address these issues. With respect to the reporting of Daily

Usage Records, CGE&Y found that ODUF (local and originating calls) records were provided at 95% of expected records during the supplemental evaluation and at 75% during the retest. CGE&Y found that ADUF (access) records were provided at 44% during the initial evaluation and at 89% during the retest. During the retest, CGE&Y closed four IWOs and evaluated the system fixes implemented by Qwest.

Following the Functionality Test, CGE&Y provided results for 221 individual performance measurement product disaggregations. This included 55 disaggregations that reported on pre-order related activities including the flow-through percentage, percentage and timeliness of rejection notices, FOC timeliness, work and billing completion notification timeliness, jeopardy intervals and timeliness. Of these disaggregations that were compared against the parity or a benchmark standard, CGE&Y found that Pseudo-CLEC results were in disparity with Qwest results or failed to meet the benchmark for only 3 disaggregations. CGE&Y found that Qwest provided disparate service or failed to meet the benchmark standard for the Pseudo-CLEC for manually returned rejection notices submitted via EDI, resale aggregate FOCs returned manually for LSRs received via Electronic Data Interchange (EDI), and timeliness of UNE-P jeopardy notifications. There were insufficient Pseudo-CLEC data to make a definite statistical finding for 4 disaggregations where aggregated commercial CLEC results were in disparity or failed to meet the benchmark. These disaggregations included Local Number Portability (LNP) FOCs submitted via EDI and returned manually, fully manual LNP FOCs, failed flow-through LNP FOCs submitted via EDI, and non-designed jeopardy notice interval. CGE&Y issued IWOs for these performance failures and validated that Qwest instituted fixes to address the issues and/or performance had improved for the retest period.

CGE&Y also reported performance results for 87 individual product disaggregations relating to ordering and provisioning, including the percentage of installation commitments met, the average installation interval, new installation quality, average delayed days, coordinated hot cut interval, and the percentage of coordinated hot cuts completed on time. CGE&Y found that Pseudo-CLEC results were in disparity with Qwest results or failed to meet the benchmark for only 9 disaggregations for those disaggregations having an established standard. CGE&Y found that Qwest provided disparate service or failed to meet the benchmark standard for the Pseudo-CLEC for dispatched and non-dispatched residential and designed Integrated Service Digital Network (ISDN) Basic Rate Service (BRS) installation commitments met; installation intervals for dispatched business, non-dispatched Centrex, ISDN BRS, PBX, and UNE-P; and designed ISDN BRS installations. There were insufficient Pseudo-CLEC data for a definite statistical finding for 4 disaggregations where aggregated commercial CLEC results were in disparity or failed to meet the benchmark. These disaggregations included LNP FOCs submitted via EDI and returned manually, fully manual LNP FOCs, failed flow-through LNP FOCs submitted via EDI, and non-designed jeopardy notice interval. CGE&Y issued IWOs for these performance failures and validated that Qwest had instituted fixes to address the issues and/or performance level improved during the retest period.

CGE&Y also reported performance results for 75 individual product disaggregations relating to M&R. This included the percentage of out-of-service troubles cleared within 24

hours, the percentage of all troubles cleared within 48 hours, the percentage of designed troubles cleared within 4 hours, the mean time to repair, the repair repeat report rate, the trouble rate, the percentage of repair appointments met, and the percentage of customer related trouble reports. Of these disaggregations that were compared against the standard, CGE&Y found that Pseudo-CLEC results were in disparity with Qwest results or failed to meet the benchmark for only 4 disaggregations. CGE&Y found that Qwest failed to meet the established standard for the Pseudo-CLEC for non-dispatched UNE-P out-of-service troubles cleared within 24 hours, non-dispatched UNE-P mean time to restore, and dispatched and non-dispatched UNE-P repair appointments met. CGE&Y issued IWOs for these performance failures and validated that Qwest instituted fixes to address the issues and/or Qwest's performance improved to acceptable levels during the retest period.

CGE&Y reported performance results for 4 billing measures, including time to provide recorded usage records, invoices delivered within 10 days, bill accuracy, and bill completeness. CGE&Y found that Pseudo-CLEC results failed to meet the applicable standard for invoices delivered within 10 days. CGE&Y issued an IWO for this performance failure and validated Qwest's improvements regarding the issue.

Conclusions

CGE&Y concludes that Qwest provides sufficient electronic functions and manual interfaces to allow competing carriers access to all of the necessary OSS functions in Arizona. This conclusion is supported by test activity; observations; performance results; and system, procedural and metric improvements that Qwest has made in response to IWOs generated during the Functionality Test. Qwest made hundreds of system, process, and documentation improvements as a direct result of the OSS Test, PMA and Data Reconciliation efforts.

As previously described, Qwest's entire performance measurement reporting process has undergone the most extensive and thorough audit of both the input data and Qwest's methods and procedures for gathering, calculating, reporting and applying business rules exclusions of any other Incumbent Local Exchange Carrier (ILEC) to date. This audit concludes that Qwest's performance measurement reporting accurately reflects performance observed by the Pseudo-CLEC and can be relied upon to determine the quality of service Qwest provides to its CLEC customers. CGE&Y recommends that aggregated commercial CLEC data be reviewed going forward to evaluate Qwest's future performance.

- Retail Parity Evaluation (Section 3)

Test Scope

The purpose of the Retail Parity Evaluation (RPE) was to determine whether a CLEC representative, using Qwest OSS, can provide a level of service and experience to a CLEC customer that is substantially the same in time and manner as that which a Qwest representative can provide to a Qwest customer. The inclusion of a RPE is unique to the Qwest Arizona OSS Test and is the only evaluation of its kind. The RPE was designed to

further evaluate the relative experience that a CLEC representative provides to its customer. The RPE design covered a period of February 2000 through August 2000. The execution of the RPE covered a period from August 2000 to December 2001.

RPE test scripts were designed to limit the evaluation to areas of similarities between retail and wholesale in submitting pre-order and order transactions. Test scripts were tested for accuracy and approved by the TAG.

Test Activities

To achieve a valid comparison, identical test scenarios were simultaneously executed at both Qwest (using its own retail systems) and the Pseudo-CLEC (using its interfaces to Qwest's OSS) to determine if the experience of each was substantially the same. In order to make the comparison identical, not only were the test scenarios identical but, the test accounts that were used were identical in line type (POTS, ISDN, Centrex, Private Line, PBX), service type (residence or business), features, and listings as well as being served from the same geographical area within the same wire center. The scenarios included both pre-order information (e.g., Address Validation, Telephone Number Availability) and the actual submission of orders. The RPE covered two types of CLEC interfaces: Interconnect Mediated Access – Graphical User Interface (IMA-GUI) and IMA-EDI. The extensive evaluation included an in-depth comparison of a CLEC's ability to process pre-order queries and submit LSRs with the Qwest retail equivalent transactions, using Qwest internal OSS interfaces. The M&R evaluation compared a CLEC's ability to perform M&R transactions via IMA-GUI and Electronic Bonding-Trouble Administration (EB-TA) with the Qwest retail equivalent transactions, using Qwest internal OSS interfaces.

Discussions during TAG meetings in the Spring of 2000 resulted in CGE&Y issuing a White Paper titled "Variable Iterations" to explain the two phases for the execution of the RPE. During Phase 1, which was performed from late August thru mid October of 2000, there were 44 paired test scripts executed and results evaluated. These results were used in determining the number of test scripts to be executed during Phase 2. Phase 2 was performed early in 2001 during which 96 paired test scripts were executed.

As a result of the RPE interim workshop, a Retail Parity re-evaluation was conducted in the fall of 2001. This evaluation addressed specific areas of concern raised by the parties. The major issues addressed included the number of fields and steps required to enter an order, pre-order response times, pre-order to order integration, and reservation of vanity Telephone Numbers (TNs) and large blocks of TNs. To re-evaluate these issues, 28 paired test scripts were executed as well as using a select group of test script results that were executed during the Functionality retest. The results of the reevaluation subsequently led to the closure of 3 IWOs.

Key Results and Findings

IMA-GUI Pre-Order/Order: CGE&Y found that the experience of a CLEC service representative performing pre-order and order transactions using the various available OSS

interfaces was substantially the same to that of a Qwest service representative performing similar activities using internal OSS interfaces.

IMA-GUI M&R: CGE&Y found that the M&R functionality provided to CLEC service representatives was substantially the same as that provided to Qwest's own retail service representatives. Subsequent to the RPE, IMA-GUI M&R was replaced by Customer Electronic Maintenance and Repair (CEMR). Test results of CEMR functionality are included in the Functionality Test section of this report.

EDI Pre-Order/Order: CGE&Y found that the quality and quantity of information obtained through EDI pre-order queries were substantially the same for the CLEC service representative as that obtained by the Qwest service representative through similar queries, and that the overall experience in submitting an order was also substantially the same for both.

EB-TA M&R: CGE&Y found that the quality and quantity of information obtained through EB-TA M&R transactions were substantially the same for the CLEC service representative as that obtained by the Qwest service representative through similar transactions, and that the overall experience in performing the various M&R transactions was also substantially the same for both.

Conclusions

As stated in the MTP, the purpose of the RPE is "to determine whether a CLEC representative, using a Qwest OSS interface, can provide service in substantially the same time and manner as the service that a Qwest representative provides." In analyzing the results of Phase 1 and 2 of the RPE as well as the results of the re-evaluation, CGE&Y concludes that the experience of a CLEC service representative using the various available OSS interfaces is substantially the same to that of a Qwest service representative performing similar activities using internal OSS interfaces. CGE&Y also concludes that Qwest provides CLECs with substantially the same access to its OSS for the purposes of initiating service requests and M&R trouble transactions. CGE&Y further concludes that the OSS access that Qwest provides to CLECs for the purposes of initiating service requests and M&R trouble transactions does not negatively impact the customer experience as any time differences observed between retail and wholesale would be transparent to a customer while communicating with the representative. These conclusions were based on a combination of qualitative, quantitative, and timeliness results, as well as observations and statistical analysis to determine the overall experience of a CLEC service representative as compared to a Qwest service representative performing similar activities.

- Capacity Test (Section 4)

Test Scope

The Capacity Test was comprised of three components: a System Capacity Test, which consisted of a robust 12-month volume test and stress test, a complete System Scalability review, and a thorough Staff Scalability review.

The purpose of the System Capacity Test was to determine whether Qwest's OSS and processes can handle both current as well as projected commercial volumes of pre-order and order transactions, all while meeting established benchmarks intended to evaluate levels of performance. The benchmarks evaluated during the Capacity Test were pre-order response times and FOC response times. The Capacity Test was conducted in the summer of 2001 using forecasted CLEC volumes for the summer of 2002. The systems were stressed with significantly higher volumes to determine their performance under such conditions.

The purpose of the System Scalability review was to evaluate Qwest's procedures for capacity expansion to determine if adequate procedures were in place for scaling Qwest's systems to provide sufficient capacity to handle future CLEC loads.

The purpose of the Staff Scalability review was to determine if Qwest had the ability to increase the number of personnel available to meet unexpected demand.

Test Activities

A Capacity Subcommittee was formed in February 2000 as a subgroup of the Arizona TAG to address the technical issues associated with the Capacity Test. This committee met more than 30 times during this engagement, affording members every opportunity to provide input to the process. One of the tasks of the Capacity Subcommittee was to recommend order volumes for the test. Qwest provided the subcommittee a forecast of the projected CLEC volumes by product type and by state. The subcommittee reviewed the data, and with full CLEC participation, reached a consensus on the order volume to be used in the test. These volumes included projected demand for the entire Qwest 14-state region. After preparation activities for the test were complete, five separate Operational Readiness Tests (ORTs) were performed to ensure that all test orders would flow through as anticipated.

An automated order generator was utilized for the capacity and stress tests. A volume of orders equal to the 12-month projected commercial volumes was used for the capacity test. During the 12-month test, more than 21,500 pre-order transactions and 4,300 orders were successfully processed. For the stress test, a busy hour volume of transactions equal to 220% of that used for the capacity test busy hour was used.

The System Scalability review included the evaluation of Qwest's procedures for capacity expansion to determine if adequate procedures are in place for scaling Qwest's systems to provide sufficient capacity to handle future CLEC loads. This review was conducted by evaluating the backup plans, disaster recovery plans and other procedures that guide Qwest's staff in executing the OSS interface capacity planning.

The Staff Scalability review evaluated whether Qwest's staff planning process was sufficient in terms of the number of staff, the facilities in which to house the staff and the training

necessary to bring new personnel up to the required level of productivity. CGE&Y reviewed Qwest's support center workforce development modeling procedures and the link between future volume projections and workforce modeling procedures. Support centers were evaluated for their ability to respond to increased workloads and to provide adequate resources to handle the manual processing of non-flow-through LSRs. Contingency plans to meet unforeseen increases in order volume, and Qwest's disaster recovery plans to ensure continued CLEC support were also evaluated. The ability of Qwest's recruiting and training programs to provide staff with the necessary skills to perform manual support functions was also reviewed by CGE&Y.

Key Results and Findings

CGE&Y found that the 12-month forecasted volume for pre-order queries transmitted to Qwest's OSS was processed within the benchmarks required by the PID, Version 6.3. The pre-order performance results were within the benchmarks for each query type. The FOC performance results obtained from the 12-month capacity test were also well within the benchmarks required by the PID. During the stress test, the level of performance for receiving pre-order responses from Qwest's OSS began to deteriorate with loads in excess of 220% of the 12-month forecasted volume. This volume exceeded the test plan requirement of 150%. The stress test results were within the PID benchmarks until the 150% stress test criteria was exceeded.

CGE&Y found that procedures to adequately track OSS loads and capacities are in place and are actively being utilized. Procedures for forecasting future OSS loads are adequately maintained and followed by Qwest's systems staff. Processes are in place and actively followed for managing and providing the necessary Central Processing Unit (CPU), memory and data storage requirements for OSS computer growth. Qwest has adequate procedures in place to guide its staff in executing OSS interface capacity planning. Qwest has adequate system disaster recovery plans in place, but does not perform live tests of these plans at this time.

CGE&Y found that Qwest has a sufficient staff scalability development model in place to support the CLEC needs. Volume contingency plans exist to meet potential dramatic increases in CLEC order volumes and are available to Qwest's staff. Disaster recovery plans are well defined to ensure continued operations are in place and maintained. Recruiting and training programs to provide for competent staff with the necessary skills to adequately process CLEC orders are sufficiently documented.

Conclusions

CGE&Y concludes that Qwest's OSS are capable of processing forecasted volumes up to 12 months in the future while maintaining a level of performance well within the established benchmarks. CGE&Y also concludes that for System Scalability, Qwest has well documented processes and procedures in place to maintain system capacity sufficient to meet projected future loads. Finally, CGE&Y concludes that for Staff Scalability, Qwest

maintains adequate forecasting procedures to identify the need for additional work force within a sufficient time frame that allows for appropriate training and placement.

- Relationship Management Evaluation (Section 5)

Test Scope

The purpose of the Relationship Management Evaluation, as directed by the MTP, was to evaluate how Qwest manages its relationship with its CLEC customers. This included all facets of Qwest's business processes, procedures, communications and communication methods that involve interaction with, or were created for the use of, the CLEC community. In its execution of the Relationship Management Evaluation, CGE&Y was required to draw conclusions as to the ease of doing business with Qwest as it pertains to entering into an Interconnection Agreement (ICA), connecting with Qwest's OSS, training provided to CLEC customers, quality of Qwest's online documentation, and Qwest's responsiveness to the CLECs' needs.

All aspects of the business model for Qwest's interaction with CLECs were regularly and repeatedly scrutinized for process and content improvements. The Relationship Management Evaluation began in May of 2000 and ended in April of 2002 with an evaluation of Qwest's redesign of their Change Management Process (CMP). Results of that evaluation can be found in CGE&Y's report, Qwest Change Management Process Redesign Evaluation, v5.0.

Test Activities

CGE&Y began its evaluation by extensively reviewing documentation relating to each of the evaluated areas. Documentation for the evaluation was obtained from all available sources, including the Qwest website, the Pseudo-CLEC through its account management team, Qwest's technical publications source, and through the Data Request (DR) process established for this Arizona §271 proceeding. CGE&Y carefully observed many of the processes discussed in this evaluation. These observations were primarily accomplished by monitoring Qwest's interactions with the Pseudo-CLEC. CGE&Y also made observations during its participation in Co-Provider Industry Change Management Process (CICMP) and CMP meetings and focus discussions, participation in Qwest's Release Notification process, attendance at various Qwest wholesale training classes, and through meetings with Qwest personnel involved in the various processes. In accordance with TSD requirements, CGE&Y conducted interviews with various members of the CLEC community to collect information about their experiences in dealing with Qwest. CGE&Y also conducted in-person interviews with Qwest personnel representing the CLEC account establishment, account management, EDI/IMA interface development, and the CMP. CGE&Y also sent questionnaires electronically to CLECs that conduct business or intend to conduct business in the state of Arizona. The questionnaires were used to collect additional information from the CLECs about their overall experiences in dealing with Qwest.

Key Results and Findings

CGE&Y found that while the account establishment process was satisfactory, the Qwest Product Catalog (PCAT) initially contained erroneous, inconsistent, and confusing information regarding CLEC account establishment, products available for resale, and UNEs. In addition, many areas of the Qwest wholesale website contained out-of-date information. CGE&Y also found that Qwest did not have a coherent process for controlling the overall content of its wholesale website. Using the IWO process, CGE&Y brought these deficiencies to Qwest's attention and provided an opportunity to address them and make the necessary improvements. Qwest's website has now been thoroughly redesigned, the content completely updated, and a comprehensive system of content review, editing, and updating put in place. Qwest has also instituted version control to much of its wholesale web content, and has placed portions of it under the control of the CMP.

CGE&Y found that while the account management processes were sufficient, Qwest's contract amendment process appeared to be inconsistently followed. This finding was based upon experiences of the Pseudo-CLEC in the Arizona §271 proceeding and the feedback received from CLECs during the Relationship Management Evaluation. In addition, the trouble ticket handling procedures used by Qwest's various CLEC-facing help desks appeared to be inconsistently followed, based upon the feedback received from CLECs and experienced by the Pseudo-CLEC during the Relationship Management Evaluation. Also, responses to CLEC account inquiries, particularly those dealing with billing-related issues, were not consistently provided in a prompt manner. Using the IWO process, CGE&Y brought these deficiencies to Qwest's attention providing an opportunity to address them and make necessary improvements. Qwest has established a service manager function to work in conjunction with the account manager function to provide CLECs with a Qwest contact to handle service-related issues, thus freeing up account managers to concentrate on account-related support. Qwest's CMP has become the forum where CLECs can address many of the issues that previously were brought to the attention of account/service managers.

Through attendance in Qwest's training courses, CGE&Y found that Qwest's CLEC training program initially consisted of only two instructor-led classes and an insufficient number of self-paced online training courses. CGE&Y issued two IWOs to address these deficiencies. Qwest implemented a new training program in 2001 containing significant improvements. Qwest completely revamped their CLEC training, adding many new classes resulting in a more robust training syllabus. Qwest also added an interactive/hands-on course on IMA-GUI which significantly enhances the training experience. Upon attending and evaluating these courses, and soliciting feedback from other CLEC attendees, CGE&Y was able to close these IWOs.

CGE&Y initially found that Qwest lacked an EDI testing environment that mirrored its production environment. Qwest's testing process imposed stringent restrictions on the CLECs and required tight coordination of order submission. CGE&Y issued an IWO to address this deficiency, and a Stand Alone Test Environment (SATE) was subsequently developed in August 2001. CGE&Y made no formal evaluation of the SATE as part of its Arizona §271 evaluation of Qwest's OSS. This evaluation was conducted by HP, and can

be found in their SATE Summary Evaluation Report. CGE&Y found that Qwest's interface development processes, apart from the initial issue of the testing environment, were sound and followed standard software development lifecycle and project management methodologies.

CGE&Y found that Qwest's original CICMP process was not a truly collaborative process for effecting changes to the various interfaces. CGE&Y also found that Qwest's CICMP did not provide CLECs with an opportunity to present Change Requests (CRs) and have them evaluated, approved, and prioritized in a reasonable length of time. In addition, CGE&Y found that while Release Notifications were found to be very prompt in most respects, Qwest's "final" EDI design documentation was released to the CLECs an average of 21 days before an upcoming release, compared to the industry standard 45-day interval. CGE&Y issued three IWOs to address these deficiencies.

During the course of this evaluation a second CICMP was chartered to specifically handle product and process CRs. While these changes represented an improvement over what had preceded them, CGE&Y found Qwest's CICMP to be deficient in some areas. In June 2001 Qwest began an initiative to comprehensively redesign the CICMP process, and changed the name to CMP. The redesign was intended to be consistent with industry standards and to apply the same processes employed by RBOCs that had already been granted §271 approval. This redesign process is a collaborative effort between Qwest and those CLECs named to the redesign "core team" and uses Ordering and Billing Forum (OBF) Issue 2233 as its basis. The redesign is still in progress. For more detailed information and evaluation of the redesign of Qwest's CMP see CGE&Y's report, Qwest Change Management Process Redesign Evaluation, v5.0.

Conclusions

CGE&Y concludes that Qwest's CLEC account establishment processes are sufficient. During the course of the evaluation, Qwest has continued its efforts to improve its processes and the quality of information available to the CLEC community related to account establishment.

CGE&Y concludes that Qwest's current account management processes are sufficient, although the original processes appeared to require reinforcement and/or improvement based on the many negative comments received from CLECs on this subject. Throughout the course of the evaluation, CGE&Y was able to track improvements to many of these processes.

CGE&Y concludes that Qwest's interface development process is sufficient. Feedback from CLECs was positive regarding the knowledge of the staff and the project management processes Qwest uses to manage individual CLEC development efforts.

CGE&Y concludes that the online documentation available to CLECs is sufficient and has been vastly improved over the course of the Arizona §271 Test. CGE&Y finds that sufficient content exists, in a well organized manner, for a CLEC to find all information

required to conduct business activities with Qwest. This information is being continuously refined, and in the future much of it will fall under the aegis of Qwest's CMP.

A complete redesign of CICMP to a new Qwest CMP is in progress. The new CMP is a collaborative process that is addressing many of the previously identified deficiencies.

Due in part to the extensive nature and duration of the Qwest Arizona OSS test, many improvements have already been implemented by Qwest. Many of these improvements were based on deficiencies that CGE&Y identified during testing, which were documented in IWOs. Qwest has corrected dozens of system problems and processing errors, and various process improvements have also been implemented. Qwest's overall documentation has improved dramatically, and their wholesale website (where CLECs get information) has been completely re-engineered. The training program has been redesigned. A complete redesign of Qwest's CMP is in progress. Furthermore, as a result of the PMA, many PID improvements have been implemented.

Recommendations

Although CGE&Y finds, based on its testing and evaluation of Qwest's OSS, that Qwest meets the applicable standards established for the test, CGE&Y has observed areas outside those standards that may be helpful to the ACC in its continuing review of Qwest's wholesale performance. While CGE&Y does not believe that implementation of any of these recommendations is required to meet the test standards, it has developed the following list of recommendations based on its observations during the conduct of the test.

These recommendations are intended to indicate areas of improvement that could benefit all parties. The inclusion of recommendations in this report does not suggest that there exists inherent deficiencies or defects not already identified during the conduct of the test.

Item	Description
1.	CGE&Y recommends that independent audits be conducted on all measures, based on a quarterly schedule, to ensure the continued accuracy of Qwest's performance measurement reporting on existing and new products. This recommendation is supported by three IWOs created during the Performance Measurement Audit (AZIWO2056, AZIWO2072, and AZIWO3006).
2.	Qwest should develop a process to seek and receive approval from a CLEC before performing any changes to a CLEC-owned account. Currently, Qwest-initiated activities are shown as "Completions" on a Loss and Completion Report, but little detail is provided, causing undue confusion. Implementation of this recommendation may provide an opportunity for Qwest to improve the quality and value of the Loss and Completion Report that Qwest provides to CLECs. Notification to a CLEC indicating that Qwest-initiated changes have been made would potentially facilitate the reconciliation of the Loss and Completion Report. This recommendation was developed to address the issue of late notification of order completion on the Loss and Completion Report, and is discussed further in AZIWO2115. This issue is an appropriate candidate for review by the CMP.

Item	Description
3.	CGE&Y recommends that Qwest explore the inclusion of additional edits of CLEC LSRs, within the Business Process Layer (BPL) of the gateway systems, prior to issuance of a FOC. This recommendation suggests that increased edits in Qwest gateway OSS would likely result in lowered initial LSR rejection rates, improved CLEC order processing, and the reduction of rejects after a FOC. This issue was initially discussed in AZIWO2116, and Qwest has implemented improvements.
4.	CGE&Y recommends that when Qwest introduces a new product or service that could impact a CLEC account, the appropriate OSS and process changes are communicated to the appropriate Qwest departments or workcenters. This recommendation suggests that Qwest implement process improvements that would result in a more efficient update of system tables and better communication to work centers which would help ensure efficient processing of CLEC orders. This issue is discussed in AZIWO1134, which allows CLECs to take advantage of new and revised product offerings more expeditiously. It is also discussed in AZIWO1127, which refers to software changes that were outside of a scheduled IMA release that were not communicated to the CLECs.
5.	CGE&Y recommends that, through the CMP, Qwest improve the timeliness of record updates from Qwest's provisioning systems to the various downstream OSS in regard to customer conversions wherever such improvements have not already been put in place. Delays in downstream record updates can potentially add additional steps to CLECs' business processes. This recommendation is based on AZIWO2060, which is discussed on page 77 of this report.
6.	<p>CGE&Y recommends that, through the CMP, Qwest consider the following process improvements:</p> <ul style="list-style-type: none"> • Provide the CLECs with a complete listing of the services and features on any CLEC-initiated order, as entered in Qwest's Service Order Processor (SOP). This recommendation should apply for any CLEC order type, whether flow-through or non-flow-through. This recap should include information such as Universal Service Order Codes (USOCs), Field Identifiers (FIDs), Hunting Sequence, etc. This suggestion calls for the Service and Equipment (S&E) section of the Service Order to be returned to the CLEC as entered in the Qwest SOP. This is currently under evaluation by the CMP forum. • Explore and develop an automated process that would allow CLECs to view the status of service orders initiated by Qwest on CLEC-owned accounts. This recommendation suggests that CLECs be provided with the opportunity to view orders, determine the status of orders, and monitor the progress of those orders through the Qwest OSS so that CLECs can more effectively support the needs of their end users. • Continue to improve the Service Interval Guide (SIG) to provide clearer and more detailed information for CLECs on disconnect intervals, and to make the information easier to locate on the Qwest wholesale website.
7.	CGE&Y recommends that Qwest provide CLECs a 45-calendar-day advance notice of final EDI design documentation. This recommendation simply suggests that Qwest conform to the timelines for issuance of EDI design documents, as presented by the CMP Redesign Team. The basis for this recommendation can be found in Section 5.6.4 of the Relationship Management Evaluation section of this report.

Item	Description
8.	<p>CGE&Y recommends that Qwest update their wholesale website with clear standards and business rules pertaining to CLECs' use of the FOC. These standards/business rules should clearly articulate how a CLEC is to differentiate between FOC, Jeopardy notice, Reject notices, and any/all other notifiers. CGE&Y also recommends that Qwest publish standard error-handling information and provide it to CLECs on the wholesale website in a table format. This would include more detailed information on Non-Fatal and Fatal errors, making the wholesale website a more detailed and complete reference point for CLECs. Although the Qwest White Paper, "Firm Order Confirmation Evaluation Results," dated August 6, 2001 provides guidance, the continued development of reference material to assist the CLECs in distinguishing and preventing errors would benefit all parties. The issue of distinguishing error messages is also discussed in the Arizona § 271 Performance Indicator Definitions (PID) Data Elements Summary Report (see Appendix R of this Final Report), specifically in the HP Missing Functionality Data Elements Spreadsheet.</p>
9.	<p>CGE&Y recommends that Qwest improve the process for CLECs to reserve large blocks of TNs. The reservation of large blocks of TNs is currently a manual process for CLECs. A process improvement, through mechanization or other means, would be most beneficial to CLECs when servicing business customers. The basis for this recommendation is discussed in Section 3.1.4.3 of the Retail Parity Evaluation section of this report (see #6 in the table), and in Data Request 192.</p>

1. Introduction

1.1 Roles and Responsibilities

1.1.1 Arizona Corporation Commission

The Arizona Corporation Commission (ACC) oversaw the test effort. It had the following responsibilities:

- Provided overall project management
- Owned the Master Test Plan (MTP)
- Created the testing implementation timeline
- Appointed a Technical Advisor to act as liaison between the ACC and the test entities
- Appointed a Test Administrator/Manager to manage the test activities
- Appointed a Test Generator to develop the testing interfaces and conduct related activities
- Reviewed and approved the Final Report template prepared by the Test Administrator/Manager

1.1.2 Test Administrator

Cap Gemini Telecom Media & Networks U.S., Inc. d/b/a Cap Gemini Ernst & Young (CGE&Y), functioning in the capacity of Test Administrator, had the following responsibilities:

- In coordination with the ACC and Doherty and Company, Inc. (DCI), established the draft and final MTP, including development and/or validation of:
 - ◆ Functionality Test coverage and scenarios
 - ◆ Retail Parity Evaluation coverage and scenarios
 - ◆ Capacity Test coverage and scenarios
 - ◆ Change Management methods and processes
 - ◆ Scalability of Qwest interfaces
- Established the draft and final Test Standards Document (TSD) in collaboration with the ACC, DCI and the Test Advisory Group (TAG)
- Ensured that Qwest was following established business rules, and accurately collecting data and computing performance measurement results
- Prepared test planning schedule, test execution schedule and overall project schedule
- Monitored test sites and activities, the test planning schedule, test execution schedule, overall project schedule and baseline documents
- Tracked testing action items

- Assigned accountabilities and tracked resolution of issues/problems identified
- Collected test status from Qwest, Pseudo-CLEC and participating Competitive Local Exchange Carriers (CLECs) and reported status to the ACC
- Provided day-to-day supervision of the test program, including supervision of Friendlies
- Analyzed test results
- Submitted a report of results and evaluations to the ACC, explicitly describing results of each of the five tests (e.g., functionality, capacity) and the evaluations for each, as well as overall results and overall evaluation
- Provided technical advice to all test participants
- Ensured, along with the TAG, that testing was conducted in such a way as to maintain blindness to Qwest
- Maintained the level of openness in its contacts with Qwest specified in Appendix F of the MTP, and submitted reports of its incidental contacts with Qwest to the TAG and ACC on a bi-monthly basis

1.1.3 Test Generator

Hewlett-Packard (HP), functioning as the Test Generator, assumed the role of Pseudo-CLEC. The Pseudo-CLEC had the same roles and responsibilities as an operating CLEC, including obtaining Qwest certification of its transaction generator software to function with Qwest's OSS before testing began.

1.1.4 Technical Advisor

The Technical Advisor to the ACC, Doherty and Company, Inc. (DCI), had the following responsibilities:

- Acted with/for the ACC, and in coordination with the Test Administrator, to establish the draft and final MTP
- Provided counsel and technical support to the ACC throughout the testing process
- Maintained communications among all interested parties and managed the flow of information among parties as directed or approved by the Commission staff
- Apprised the third party Test Administrator and the ACC staff of communications and any conclusions reached with all parties or TAG participants on a weekly basis
- Assisted the ACC in overseeing the test process and in evaluating test results and recommendations

1.1.5 Qwest

Qwest, in the position of Incumbent Local Exchange Carrier (ILEC), provided assistance with provisioning of pseudo test accounts, and order processing and provisioning. Qwest also provided Subject Matter Experts (SMEs) for consulting and support during test planning, preparation, execution, and analysis

and for establishing the Friendly accounts. Qwest's systems, operations, and processes were the focus of the test.

1.1.6 End Users/Friendlies

End Users ("Friendlies") were recruited and managed by CGE&Y to participate in functionality testing. Friendlies provided the physical locations to install test lines and performed specific test calls as directed by CGE&Y. Friendlies were used in Resale, Unbundled Network Element – Platform (UNE-P), Unbundled Network Element – Loop (UNE-L), UNE-L with Local Number Portability (LNP), and LNP tests. Friendlies enhanced the test effort by providing real-life customer input.

1.1.7 Participating CLECs

Three CLECs participated in the test to provide the supporting activities and or facilities required during the test that could not be provided by the Pseudo-CLEC arrangement. AT&T provided assistance with UNE-L and LNP provisioning and testing; WorldCom supported the submission and data collection of trouble tickets via Electronic Bonding – Trouble Administration (EB-TA) on Pseudo-CLEC accounts; COVAD entered CGE&Y test orders for line sharing, and provisioned and tested Digital Subscriber Line (DSL) on the installed lines.

1.1.8 Technical Advisory Group

The TAG had the following responsibilities:

- Conducted bi-monthly and event related conferences, either by in-person meetings or teleconferences, to inform all participants of testing progress and status
- Periodically reviewed test results and offered advice, observations and provided input to the test process
- Facilitated CLEC participation in the test process
- Participated in the Change Management process
- Reviewed instances of reported exceptions and other issues as they arose; attempted to resolve by consensus
- As necessary, escalated exceptions to the ACC for decisions on whether or not to retest
- As necessary, escalated unresolved issues to the ACC for decisions
- Accepted participant input on any matters related to testing, directed that input to the cognizant parties and, as necessary, processed as described in the preceding bullet points
- Through the Test Administrator, monitored test plans to ensure, as much as practical, that Qwest remained blind to the test process
- Adopted a Change Control Process that was applied for the MTP including the Performance Indicator Definitions (PID) and the TSD

1.1.9 Governing Documents

This test was governed by two primary documents: the MTP and the TSD. The MTP set forth the approach, scope and focus, timeline, roles and responsibilities, testing phases (planning, preparation, execution, and analysis/reporting), and all associated required activities for the testing of the CLEC access that Qwest provided to its OSS. The TSD was created to describe how the §271 OSS tests and evaluations would be executed. The TSD contained a test approach and detailed test procedures and criteria, including entrance and exit criteria. The TSD was finalized through the collaborative TAG process, which enabled the CLECs to identify their specific testing needs and concerns, and provided them an opportunity to offer significant input to the testing.

The MTP and TSD were created based on certain assumptions that did not always prove to be valid as the test was conducted. In those situations, CGE&Y, working with the ACC, DCI, and the TAG, conducted the test consistent with the purposes of the documents.

Some processes were developed and implemented in addition to the process documents required by the TSD. Examples are:

- Test Exception
- Incidental Contact Report (ICR)
- Impasse
- Communication
- Data Request (DR)

2. Functionality Test

Introduction

The purpose of the Functionality Test was to determine whether the ILEC has developed sufficient electronic functions and manual interfaces to allow competing carriers equivalent access to all of the necessary OSS functions. In short, the purpose of functionality testing is to determine the extent to which Qwest's OSS provide operational functionality to CLECs and to report on certain OSS performance indicators.

This report summarizes the activities conducted during the Functionality Test of the Qwest OSS and the associated performance measurements derived from the test data. This testing and evaluation was performed on the following OSS functions, and the results can be found in the corresponding sections:

- Pre-Ordering (Section 2.1 and 2.5.4.1)
- Ordering and Provisioning (Section 2.2 and 2.5.4.1)
- Maintenance and Repair (M&R) (Section 2.3 and 2.5.4.1)
- Billing (Section 2.4 and 2.5.4.1)
- Performance Measurement (Section 2.5)

Approach - Overall

The Functionality Test approach used end-to-end processing of Local Service Requests (LSRs) to evaluate Qwest's OSS and processes, from pre-order through billing. The Functionality Test was conducted in a production environment from December 2000 through June 2001 in accordance with Section 4 of the MTP and Section 3 of the TSD. The scenarios tested were designed to replicate a mix of resale and Unbundled Network Elements (UNE) order activity for a start-up CLEC in the Qwest Arizona serving area. The testing included Resale, UNE-P, UNE-L, LNP, and UNE-L with LNP. Business and residential orders were issued, encompassing new (install), conversion as specified, partial migration, change, disconnect, and cancel activities. The quantities were developed in accordance with Section 9 of the TSD.

The test generated data that were used in the statistical evaluation of performance measurements defined in the Arizona Service PID, Version 6.3 (PID 6.3) dated May 1, 2001. The PID defines key performance indicators for wholesale order activity to measure Qwest's performance. CGE&Y evaluated the same performance measurements for Qwest retail and aggregate CLEC during the same time period as the test data.

A retest matrix² was developed and presented to the TAG in accordance with Appendix I of the TSD. The matrix contained scenarios to test Qwest's solutions of 24 Incident Work

² CGE&Y Archive File: FT #12 – Retest Matrix

Orders (IWOs). From the scenarios 171 test cases were developed.³ The results of the retest were used to close the IWOs as appropriate.

Interactions Between Test Participants

The interactions between test participants are described in Figure 2a below. Additional details on these interactions can be found throughout the Functionality Test section of this report.

³ CGE&Y Archive File: FT #10 – Retest Accounts and FT#11 – Retest Tracking Log Spreadsheet

Figure 2a



- a) Qwest created pseudo accounts (described in this section)
- b) CGE&Y requested collocation facilities from the participating CLEC (described in this section)
- c) Participating CLEC identified available collocations (Appendix F, Interface Process)
- d) CGE&Y requested pre-provisioning based on test scenarios (Appendix F, Interface Process)
- e) Participating CLECs completed pre-provisioning of facilities (Appendix F, Interface Process)

- f) CGE&Y sent test scripts to Pseudo-CLEC (Section 2.2.3, Process)
- g) Pseudo-CLEC issued pre-order queries to Qwest (Section 2.1.3, Process)
- h) Query responses returned by Qwest (Section 2.1.3, Process)
- i) Pseudo-CLEC issued orders to Qwest (Section 2.2.3, Process)
- j) Firm Order Confirmation (FOC) returned by Qwest (Section 2.2.3, Process)
- k) CGE&Y sent Provisioning Request Form (PRF) to participating CLEC (Section 2.2.3, Process)
- l) Qwest provisioned order and returned Service Order Completion (SOC) (Section 2.2.2, Scope)
- m) Participating CLEC returned test results (Section 2.2.2, Scope)
- n) Pseudo-CLEC updated tracking log (Section 2.2.3, Process)

Pretest Approach

Test preparation required extensive planning and coordination between CGE&Y and the other test participants. The following is a summary of the major tasks that took place prior to the start of testing:

- ❑ Acquired friendly and pseudo accounts - CGE&Y developed a pool of 609 volunteer end-users (Friendlies), in the state of Arizona who volunteered the use of their physical locations to install test lines. TAG members recruited Friendlies on behalf of the Test Administrator from their respective companies. In order to achieve the total test cases required, Qwest created 956 pseudo accounts as record-only retail test accounts to supplement test addresses provided by the Friendlies.
- ❑ Identified and classified friendly and pseudo accounts - CGE&Y identified the characteristics (e.g., business/residence, service location, availability of participating CLEC collocation facilities, existing vs. additional service) of friendly and pseudo accounts to facilitate the mapping of each to a particular test case.
- ❑ Obtained Letter of Authorization (LOA) - CGE&Y was required to send LOAs (see Appendix I) to each potential Friendly participating in the test. The signed LOAs enabled CGE&Y to act as an agent to set up the Friendlies' lines for testing. CGE&Y forwarded copies of the signed LOAs to the Pseudo-CLEC.
- ❑ Coordinated test activities with Pseudo-CLEC - CGE&Y coordinated the scheduling of tests, communication of results, and escalation of issues with the Pseudo-CLEC.
- ❑ Created Test Information Packets for Friendlies - CGE&Y created information packets containing:
 - Call Detail Log (see Appendix C)
 - Test Call Instructions (see Appendix D)
 - Unplanned Trouble Log (see Appendix E)

These information packets were delivered to the Friendly for each test line.

- ❑ Retrieved Customer Service Records (CSRs) and validated accounts – Initially, HP and later CGE&Y retrieved the CSRs for each friendly and pseudo account via the Qwest Interconnect Mediated Access (IMA)-Graphical User Interface (GUI). In order to ensure that the requirements for each order and product type would be met, the status of the service was validated for each account, using the CSR as a reference.
- ❑ Created database for friendly and pseudo accounts - CGE&Y created a database containing the necessary information to manage the friendly and pseudo accounts during testing. The database contained information about friendly and pseudo accounts. The information categories included names, telephone numbers, addresses, business/residence type, collocation match status, and LOA status.
- ❑ Developed test cases – CGE&Y developed test cases from the scenarios outlined in Attachment A of the MTP. Friendly and pseudo accounts may have one or more test cases applied to each address; for example, new and change order, new and M&R, and installation of multiple lines. The following sources of information were used to create test cases:
 - Friendly database for service address⁴ – database including the specific information for each Friendly (e.g., name, address, LOA)
 - Test accounts spreadsheet⁵ - spreadsheet including the account information from the friendly database and the pseudo accounts built by Qwest
 - Test case matrix to identify product activities to be tested⁶ - spreadsheet listing the scenario requirements from Appendix A of the MTP
 - Collocation spreadsheet for cooperative loop testing⁷ based on the Friendlies collocation availability. This spreadsheet includes the participant collocation and the available Connecting Facility Assignments (CFAs)
- ❑ Designed test cases to verify that:
 - The Pseudo-CLEC and participating CLECs were able to perform the necessary pre-order activities and to submit LSRs, and Qwest was successfully able to provision, install and bill the requested service or facilities in an accurate and timely fashion. This included a CLEC's ability to track the progress of the LSRs through Qwest systems.
 - The Pseudo-CLEC was able to access M&R systems using Customer Electronic Maintenance & Repair (CEMR), and the participating CLECs were able to access M&R systems using EB-TA with test cases supplied by CGE&Y. This included the ability to issue, track and close a trouble ticket.

⁴ CGE&Y Archive File: FT #1 – Friendly Database

⁵ CGE&Y Archive File: FT #2 – Test Accounts Spreadsheet

⁶ CGE&Y Archive File: FT #3 – Test Case Matrix

⁷ CGE&Y Archive File: FT #4 – Collocation Spreadsheet

- ❑ Mapped friendly and pseudo accounts to test cases - CGE&Y determined the most efficient match of test scenarios for friendly and pseudo accounts and mapped them to test cases based on their service location, also considering availability of collocation facilities, and business/residence status. Friendlies without participating CLEC collocation facilities were assigned to UNE-P and POTS (resale) test cases.
- ❑ Created test scripts – CGE&Y produced individual test scripts (see Appendix H) based on the details of each test case. These scripts contained the necessary data to create an LSR. The test scripts included the tracking number, basic scenario, features, Universal Service Order Codes (USOCs), Directory Listing (DL) information and other pertinent information necessary to execute the test.

The application of the test cases to test accounts and the development of the test scripts required the following steps:

1. Retrieve Customer Service Record (CSR) via IMA-GUI.
2. Match CSR to test accounts spreadsheet (TestAccts.xls).⁸
3. Organize test accounts by scenario requirements (TestCases.xls).⁹
4. Screen the Friendlies' accounts for eligibility based on their location in the serving area. In addition to the pre-ordering steps mentioned above (numbers 1 – 2), the screening also included:
 - Matching addresses to participating CLEC collocation sites
 - Selecting residential and business addresses per product type
5. Enter the information in the test accounts spreadsheet (e.g., basic scenario, feature USOCs, DL information and any other pertinent information necessary to the test process).
6. Enter the tracking number in the list in progress spreadsheet (Tracking_#_List_In_Progress.xls).¹⁰
7. Enter the tracking number and the scenario specifications in the "TestAccts.xls".¹¹
8. Update the access database.
9. Generate and print the scripts (see Appendix H, Test Order Scripts).
10. After the order completes, enter the information in the Return Order Log spreadsheet.¹²

These steps are detailed in the “Order Execution Process” (see Appendix J).

- ❑ Delivered test scripts to Pseudo-CLEC - CGE&Y printed and delivered test scripts to the Pseudo-CLEC. Test scripts were delivered on a daily basis and each test script was recorded on the Return Order Log.¹³

⁸ CGE&Y Archive File: FT #2 – Test Accounts Spreadsheet

⁹ CGE&Y Archive File: FT #3 – Test Case Matrix

¹⁰ CGE&Y Archive File: FT #5 – Tracking Number List In Progress Spreadsheet

¹¹ CGE&Y Archive File: FT #2 – Test Accounts Spreadsheet

¹² CGE&Y Archive File: FT #6 – Return Order Log Spreadsheet

¹³ CGE&Y Archive File: FT #6 – Return Order Log Spreadsheet

- ❑ Met friendly criteria - The following friendly criteria from Section 2.4 of the TSD were met prior to commencing the test:

Criterion	Completed
CGE&Y End-User Team developed Friendlies solicitation methods.	✓
ACC reviewed solicitation method(s) and approved solicitation method(s) for Friendlies.	✓
Solicitation of Friendlies were sent out by TAG Members within their organization via Email.	✓
Potential Friendlies nominated themselves as volunteers by responding to telephone numbers provided by the TA in the initial contact letter. The TA contact numbers are voicemail systems that were checked frequently. On the greeting the potential volunteer was asked to leave their: Name, Address, Contact Telephone Numbers, and the best time to contact the potential volunteer.	✓
Friendlies were accepted by the CGE&Y End-User Team upon receipt of the signed Letter of Authorization (LOA).	✓
Test lines are pre-provisioned at necessary Friendly locations.	✓

In addition to these pretest preparations, CGE&Y developed a questionnaire in accordance with Section 8 of the TSD which was designed to assess the interaction between Qwest and its CLEC wholesale customers in the areas of Network Design Requests (NDR), collocation and interconnection trunking. The questionnaire was delivered to each of the participating CLECs and included questions on the usability and completeness of procedures and documents, adequacy of NDR, collocation forecast forms and order/provisioning processes for interconnection trunking.

CGE&Y also notified Qwest of test account activity so they could prevent database updates on certain special services, including the 911/E911, Operator Assistance (OA) and Directory Assistance (DA) to avoid adverse impact of pseudo accounts (not Friendlies) on Qwest downstream production output.

Test Execution Approach

The manner in which CGE&Y conducted the Functionality Test was guided and directed by the MTP and TSD. The MTP and TSD directed the testing into the pre-ordering,

ordering/provisioning, M&R, billing and performance measures. Each of these areas are described in this section.

The table below shows the products tested and the number of scenarios planned to meet the sample size requirements specified in Section 9.2 of the TSD and the statistical approach specified in Section 2.5 of this report:

Testing Scenarios	Planned
UNE-Loop	140
Business POTS Install (Resale)	140
Business POTS Conversion (Resale)	140
Private Lines	50
ISDN – ADSL	50
UNE-P Rural	140
UNE-P Conversion	140
UNE-P Install	140
Residential POTS Install (Resale)	140
Residential POTS Conversion (Resale)	140
Scenarios Outside the Product Matrix	47
Totals	1267

❖ Pre-ordering

Pre-ordering is the process by which CLECs query Qwest databases to verify or obtain the information necessary to prepare and issue a valid LSR or Access Service Request (ASR) and to retrieve information about the resources of Qwest.

In accordance with Sections 4.2 and 4.3 of the MTP, the scope of the pre-order test was to review the following transactions:

- CSR query that allows the CLEC to view an end-user's current service record
- Address Verification query that allows the CLEC to verify service address information, as registered in Qwest's service areas
- Reserve Telephone Number (TN) function that allows the CLEC to reserve one or more TNs at a verified address
- Service and Feature Availability query that allows the CLEC to retrieve a list of services and features available on Qwest's serving switch for the verified service address and as allowed by the CLEC's interconnection contract
- Appointment Scheduler functionality that allows the CLEC to view available dates and appointment times for dispatch of field technicians
- Facility Availability query that allows the CLEC to view whether facilities are available at the verified address, whether dispatch is required for connection of new lines and, if applicable, notification of possible held orders

- Loop Qualifications query which provides characteristics of the loop (e.g., length, loading) for designed circuits

Additionally, the pre-order process verifies appropriateness and timeliness of reject messages as well as a successful connection to the pre-order system. CGE&Y evaluated the pre-ordering process by monitoring and documenting the submission of pre-order queries performed in preparation for defined test cases.

❖ Ordering/Provisioning

Ordering is the process that CLECs use to format and issue LSRs or ASRs to Qwest.

Provisioning consists of the OSS that Qwest uses to install the service or facility ordered, or otherwise implement the CLEC order.

As described in Section 3.7.5.1 of the TSD, the scope of the Functionality Test for ordering and provisioning activities encompassed the following:

- Testing of Qwest's interfaces and order entry systems to validate the ability to receive LSRs via Electronic Data Interchange (EDI), IMA-GUI and FAX as prescribed in the MTP
- Transmission of multiple order types by the Pseudo-CLEC to Qwest, including new installation, conversion as specified, conversion as is, change, suspend, restore, disconnect, cancellation (supp-to-cancel) orders and 911/DA database updates as required
- Qwest's transmission of acknowledgements (EDI), rejects, jeopardy notifications, FOCs, and SOC's to the Pseudo-CLEC
- Validation that each order was provisioned as specified in the order
- Processing of flow-through and non flow-through orders (i.e., those accepted by the Service Order Processor (SOP) and those needing human intervention in order to create the internal Qwest service orders)
- Periodic reports of daily test activity including:
 - ◆ Number of tests run to date by category
 - ◆ Tests passed to date by category
 - ◆ Tests failed to date by category
 - ◆ Incidents recorded to date
 - ◆ Testing incident resolutions received to date (via Performance Acceptance Certificates (PACs) from Qwest)
 - ◆ Retests performed on PACs to date
 - ◆ Passed retests and failed retests (orders still in progress were not included on the reports, but were tracked)
 - ◆ For coordinated requests, determination if Qwest contacted the Pseudo-CLEC at the appropriate times and provided the appropriate information

CGE&Y evaluated the ordering and provisioning process by monitoring and documenting the issuance of orders by the Pseudo-CLEC.

❖ Maintenance and Repair

M&R is the function whereby CLECs diagnose and troubleshoot customer-reported troubles, report troubles, open trouble tickets, inquire on the status of trouble tickets, and close trouble tickets. Through submission of M&R test trouble tickets, CGE&Y evaluated a CLEC's ability to perform these activities associated with trouble shooting and returning a customer's line to service. According to Section 3.7.6 of the TSD, the focus of the M&R evaluation was to determine:

- Whether these systems generated a timely and accurate trouble report
- If the Pseudo-CLEC or participating CLEC could perform a Mechanized Loop Test (MLT) for a reported trouble
- If the MLT results provided the Pseudo-CLEC or participating CLEC the appropriate information
- Whether the Pseudo-CLEC or participating CLEC could obtain the status of a trouble ticket
- Whether Qwest notified the Pseudo-CLEC or participating CLEC of successful restoration of service after the service fault was identified and corrected
- Whether the Pseudo-CLEC or participating CLEC could retrieve a customer's trouble history, as applicable

CLECs can perform M&R activities electronically, using functionality provided to CLECs by Qwest via one of the available application options, or via a telephone call to Qwest's Account Maintenance Service Center. Section 3.7.6.1 of the TSD limited functionality testing to the two primary interfaces available for CLEC M&R. These are:

- Customer Electronic Maintenance & Repair (CEMR) - a proprietary web-based GUI application designed by Qwest
- Electronic Bonding - Trouble Administration (EB-TA) – a gateway interface with associated programming and business rules that allows CLECs to design their own GUIs for conducting M&R activities with Qwest

CGE&Y evaluated of the M&R process by monitoring and documenting the creation of trouble tickets by the Pseudo-CLEC.

❖ Billing

Billing is the process whereby Qwest provides the CLECs with wholesale bills and usage data, including records for services, features, network elements and functions that were ordered and provisioned.

Section 4.3.4 of the MTP and Section 3.8 of the TSD identified the focus for the validation of the Pseudo-CLEC bills to verify that:

- The bills accurately reflected what was ordered.
- The bills provided accurate recurring, non-recurring, and usage-sensitive charges.
- Rates were applied correctly for each product, service, or element.
- Taxes and surcharges were assessed correctly.
- Discounts and adjustments were performed correctly.
- Prorated amounts were charged accurately according to the disconnect date.
- Disconnects were processed and appeared accurately on the bill.
- Daily Usage Files (DUF) were updated accurately.

❖ Performance Measures

The statistical evaluation of performance measurements calculated from data gathered during the Functionality Test was designed to provide a statistically valid assessment of Qwest's performance in providing service to the CLECs based on established performance measures.

In accordance with Section 8.5.3 of the MTP and Section 7.3.4 of the TSD, the Functionality Test Performance Measurement Test encompassed the following activities:

- Collection of Qwest performance measurement raw data (ad hoc data) for the Pseudo-CLEC, Qwest, and aggregate CLECs.
- Development of Functionality Test data captured by the Pseudo-CLEC.
- Validation that data observed and captured by the Pseudo-CLEC is accurately reflected in Qwest raw data files.
- Independent calculation of all measurements indicated in Appendix C of the MTP for the Pseudo-CLEC, aggregate CLECs, and Qwest retail using Qwest raw data and for the Pseudo-CLEC using Functionality Test data collected by the Pseudo-CLEC according to the statistical approach outlined in Section 9 of the TSD.
- Declaration of parity/disparity or pass/fail for all performance measurement results where sufficient data are available.
- Comparison of computed performance results, Z statistics, and other calculations using Qwest provided raw data to computed performance results, Z statistics, and other calculations using Functionality Test data captured by the Pseudo-CLEC. Discrepancies in the calculations were evaluated, documented and reported by CGE&Y.
- Identification of problems or issues during the statistical evaluation of the Functionality Test. These issues were entered on IWOs and forwarded to the TAG for Qwest to investigate, respond and take corrective action if necessary.

2.1 Pre-Ordering

2.1.1 Introduction

Pre-ordering is the process by which CLECs query Qwest databases to verify or obtain the information necessary to prepare and issue a valid LSR or ASR. Pre-order test activities included monitoring the ability to access, and the functionality provided by, Qwest's IMA-GUI and EDI systems while the Pseudo-CLEC performed queries to obtain customer information as defined by the test case. Testing provided the opportunity for assessment of the ability of these systems to gather information for the various types of orders.

2.1.2 Scope

In accordance with Sections 4.2 and 4.3 of the MTP, and Section 3.7.4.1 of the TSD, the scope of the pre-order test was to execute the following transactions:

- CSR queries that allow the CLEC to view an end-user's current service record
- Address Verification queries that allow the CLEC to verify service address information, as registered in Qwest's service areas
- Reserve TN function that allows the CLEC to reserve one or more TNs at a verified address
- Service and Feature Availability queries that allow the CLEC to retrieve a list of services and features available on Qwest's serving switch for the verified service address and as allowed by the CLEC's interconnection contract
- Appointment Scheduler functionality that allows the CLEC to view available dates and appointment times for dispatch of field technicians
- Facility Availability queries that allow the CLEC to view whether facilities are available at the verified address, whether dispatch is required for connection of new lines and, if applicable, notification of possible held orders
- Loop Qualification queries which provide characteristics of the loop (e.g., length, loading) for designed circuits

In addition, the pre-order test verified the appropriateness and timeliness of reject messages as well as a successful connection to the pre-order system. The pre-order test also included an evaluation of the integration quality of pre-order and order data.

2.1.3 Process

CGE&Y used the test scenarios from Appendix A of the MTP to develop test cases,¹⁴ which were then used to create test scripts (see Appendix H). The test scripts incorporated both pre-order and order activities that would have been received from incoming telephone calls from customers. The Pseudo-CLEC or participating CLEC performed the pre-order queries to gather the data necessary to prepare the LSRs.

Pre-order activities included:

- Monitoring pre-order transactions (e.g., address validation, CSR query)
- Monitoring and evaluating the overall performance of the IMA-GUI and EDI systems
- Verifying the expected results against actual results to ensure the objectives were attained
- Validating the accuracy of the data entered by the Pseudo-CLEC when actual results were different from expected results, and determining if a re-submission was required

2.1.3.1 Pre-Ordering Entrance Criteria

The following entrance criteria in Section 3.7.4.3 of the TSD were met prior to commencing the IMA-GUI pre-order test.

CGE&Y Entrance Criteria

Criterion	Completed
Develop test scripts based on data from the test scenarios in the MTP	✓
Create a spreadsheet to document details associated with each test script and expected results	✓ ¹⁵
Develop test script forms and provide data requirements using information from completed test script spreadsheets	✓
Collect names and addresses of Friendlies from the End-User Team	✓

¹⁴ CGE&Y Archive File: FT #3 – Test Case Matrix

¹⁵ Pre-order details are captured in the order test script.

Criterion	Completed
Populate Test Scripts with Friendly's name, addresses and other pertinent information about products, features and listings used to generate the test cases assigned to specific test scripts	✓
Receive the number of iterations for each Test Scenario from the Statistical Team	✓
Receive the volume of test scripts to be executed each day from the Statistical Team	✓
Update Test Scripts with execution dates	✓
Provide test scripts to the Pseudo-CLEC	✓
Establish daily update reports transfers to the TA for 911 and OA/DA systems	✓
Establish data flow to Qwest for table updates for blocking directory printing and 911 fallout of pseudo accounts	✓

Subject Matter Expert (SME) Entrance Criteria

Criterion	Completed
Develop test scripts based on data from the test scenarios in the MTP	✓
Create a spreadsheet to document details associated with each test script and expected results	✓
Develop test script forms and provide data requirements using information from completed test script spreadsheets	✓
Qwest Core Testing Team is available for internal system queries	✓
Names of the point of contacts and order entry personnel at the Pseudo-CLEC Site	✓
Name of the point of contact and support personnel at	✓

Criterion	Completed
the participating CLEC locations	
Access to Qwest's service ordering reference manuals	✓
Performance measures have been implemented	✓
Daily logs to document observations	✓
Qwest 911 IT SME for update data extracts	✓
Qwest 911 vendor SME for pseudo account maintenance	✓
Qwest operator services SME for blocking table maintenance	✓

Pseudo-CLEC Entrance Criteria

Criterion	Completed
Pseudo-CLEC has the ability to send and receive transactions through Qwest gateways	✓
Daily Schedule for all tasks to be performed on a given date	✓
Validation that the Pseudo-CLEC is able to collect data. This will be accomplished using transactions performed during the "Readiness Certification" process. During this process, the Pseudo-CLEC will verify that the TA is able to access the Pseudo-CLEC database to extract the elements required for analysis	✓
Test data elements available in the databases	✓
The Performance Measurement Evaluation process has been successfully passed for all relevant Performance Measures. The TA will organize Functionality Testing into a number of test phases by mapping Test Cases/Scripts to Performance Measures that have successfully passed the process audit. Testing can then begin for Test Cases/Scripts that map only to Performance Measures that have passed	✓

Criterion	Completed
the required audits	
Test quantities have been identified by the Statistical Team	✓
Email addresses have been established for 911 and OA/DA maintenance processes	✓

2.1.4 Results

CGE&Y identified Qwest system, process, and/or training issues that resulted in the generation of IWOs. The summary of IWOs can be found in Appendix B.

Table 2.1.4a below shows the number of pre-order transactions and average response times by month recorded during functionality testing, separated between IMA-EDI and IMA-GUI interfaces. This data is provided here for informational purposes only and does not exclude outlying data points. Further detail on PO-1 is provided in Section 2.5.4.1 of this report. An evaluation of PO-1 performance measures is provided in Section 4, Capacity Test, of this report.

Table 2.1.4a¹⁶

Media	Query	Data	Jan 2001	Feb 2001	Mar 2001	Apr 2001	May 2001	Jun 2001	Jul 2001	Aug 2001	Grand Total
IMA-EDI	AAQ	Count	42	39	8	29	99	58			275
		Avg *	49.1	1,215.5	28.4	15.3	17.3	79.0			205.2
	ASQ	Count	43	39	6	42	111	67			308
		Avg	1,881.5	160.1	12.7	17.4	19.8	18.7			296.8
	AVQ	Count	115	396	279	327	235	89		6	1447
		Avg	430.5	18.1	15.8	17.6	38.8	53.9		21.0	55.9
	CFAQ	Count		48	4	69	15				136
		Avg		18.4	16.0	15.7	18.8				17.0
	CSRQ	Count	57	281	278	263	134	33	1	11	1058
		Avg	105.0	832.1	14.9	16.0	31.2	15.8	21.0	18.2	239.2
	FAQ	Count	75	124	19	75	124	32			449
		Avg	25.7	21.7	19.7	19.0	24.3	40.0			23.8
	SAQ	Count	41	37	1	7	30	11			127
		Avg	24.7	18.2	12.0	17.0	18.4	291.2			43.9
	TNAQ	Count	52	67	12	44	127	66			368
		Avg	23.2	16.4	27.6	16.1	18.0	286.0			66.6
IMA-GUI	TNSQ	Count	39	54	9	46	131	59			338
		Avg	20.0	16.1	18.2	16.1	18.3	263.7			60.7
	AAQ	Count	1	37	42	21	91	65			257
		Avg	3.0	2.7	2.7	2.7	3.5	3.6			3.2
	ASQ	Count	1	34	35	14	44	15			143
		Avg	1.0	1.3	1.6	1.5	2.4	1.9			1.8
	AVQ	Count	41	472	698	424	415	315	17		2382
		Avg	3.3	3.6	4.5	4.2	2.6	3.3	3.0		3.8
	CFAQ	Count		195	23	247	209	171			845
		Avg		7.5	5.7	5.4	6.4	7.4			6.5
	CSRQ	Count	37	343	680	327	234	204	22		1847
		Avg	3.6	5.0	3.6	4.5	2.9	5.5	5.3		4.2
	CTQ	Count			4		4	1			9
		Avg			0.5		1.0	1.0			0.8
	FAQ	Count	1	81	52	35	111	22			302
		Avg	17.0	10.4	19.9	9.5	17.2	17.4			15.0
	RLDQ	Count		10		3					13
		Avg		2.8		3.3					2.9
	SAQ	Count	3	34	35	12	51	7			142
		Avg	7.0	6.5	7.0	8.0	7.0	8.0			7.0
	TNAQ	Count	1	28	49	5	65	44			192
		Avg	5.0	5.3	3.6	1.6	2.2	3.0			3.2
	TNSQ	Count	1	22	43	5	61	41			173
		Avg	3.0	2.0	2.4	0.8	0.7	1.0			1.4
	DLRQ	Count		2		1					3
		Avg		4.0		3.0					3.7

Note: "Avg" = Average Response Time in Seconds

Legend:			
AAQ	Appointment Availability Query	DLRQ	Design Layout Record Query
ASQ	Appointment Selection Query	FAQ	Facility Address Query
AVQ	Address Validation Query	RLDQ	Raw Loop Query
CFAQ	Connecting Facility Assignment Query	SAQ	Service Availability Query
CSRQ	Customer Service Record Query	TNAQ	Telephone Number Assignment Query
CTQ	Cancellation Query	TNSQ	Telephone Number Select Query

¹⁶ CGE&Y encountered 168 transactions that received no responses. These transactions are included in the raw data, but were excluded from the calculations in this table.

The following observations were made during the pre-order testing:

It appeared that the address search criteria in IMA-GUI did not provide adequate information for a Data Local Exchange Carrier (DLEC) to validate an end user's address for a loop qualification. (AZIWO2117) CGE&Y conducted a retest of this IWO and determined that when a correct and complete address was entered, address validation was successful. CGE&Y executed the following orders during the retest effort to determine the accuracy of Address Validation transactions for loop qualification:

Order Number	Number of lines	Line Type	Notes
C65295264	2	1FB	10/16/01 Order was used to validate IWO2117 for Address Validation by address. PASSED
C65180435	1	1FB	10/16/01 Order was used to validate IWO2117 for Address Validation by address. PASSED
C61300860	2	1FR	10/17/01 Order was used to validate IWO2117 for Address Validation by address. PASSED
C63979324	2	1FR	10/16/01 Order was used to validate IWO2117 for Address Validation by address. PASSED
D63595504 N63595505	2	UHR	10/17/01 Order was used to validate IWO2117 for Address Validation by address. PASSED
D63595739 N63595740	2	UHR	10/17/01 Order was used to validate IWO2117 for Address Validation by address. PASSED
D63595757 N63595758	2	UHR	10/17/01 Order was used to validate IWO2117 for Address Validation by address. PASSED
C64264480	3	C21XX	10/16/01 Order was used to validate IWO2117 for Address Validation by address. PASSED
C64264479	5	C21XX	10/16/01 Order was used to validate IWO2117 for Address Validation by address. PASSED
C64264491	10	C21XX	10/17/01 Order was used to validate IWO2117 for Address Validation by address. PASSED

CGE&Y also engaged in the following activities to verify that the subject of this IWO has been addressed:

- Reviewed the IMA User's Guide (Pre-order Process; Address Validation located in Chapter 1, pages 1 thru 9) on the Qwest Wholesale website and verified that current documentation is available, and that updates are

posted as appropriate. CGE&Y determined that the IMA User's Guide provided at this site is very specific as to what information is required to complete an address validation by street.

- Observed that all address validations were successful when the full address was used. When partial information was used, such as not including the thoroughfare, the system provides a list of address ranges and street names for the user to select. In the instance when the response to address validation is "No Address found," the CLEC/DLEC needs to provide more specific or complete address information. This procedure must also be taken into consideration when experiencing a list of address ranges from the inquiry.

Based on the positive results of the retest effort, CGE&Y is satisfied that the subject of this IWO has been resolved. Therefore, AZIWO2117 was closed.

During pre-order address validation using IMA-EDI, the Pseudo-CLEC encountered an error message. Validation of the same address via the IMA-GUI was successful. (AZIWO1089) CGE&Y closed the IWO after determining that an incorrect city code was entered.

During the pre-order address validation test it was determined that IMA-GUI did not properly handle address ranges. The Pseudo-CLEC implemented a manual work around to populate the apartment field on the order to complete the test. (AZIWO1047) CGE&Y closed the IWO after determining that the street name was entered incorrectly.

The integration quality of pre-order and order data for IMA-GUI was found to be sufficient. Fields are cached and are pre-populated on the LSR, or selected by the user from a drop down menu. The following observations were noted:

- If a CFA was retrieved, it was not pre-populated on the Loop Service (LS) Form
- NC/NCI codes are provided on the CSR query, but are not pre-populated on the LSR form

It should be noted that these observations are not indicative of a lack of pre-order/order integration. In fact, the CLEC may issue a pre-order query during creation of an LSR to obtain CFA information. Also, the selection of an appropriate NC/NCI code must be determined by the CLEC.

The integration quality of pre-order and order data for EDI was determined to be dependent upon the level of development of the CLEC EDI interface.

A further analysis of the integration quality of pre-order and order data can be found in Section 5.4.3 of this report.

Exit Criteria

The following exit criteria specified in Section 3.7.4.5 of the TSD were met prior to completing the IMA-GUI pre-order test:

Criterion	Completed
Pre-order data entry corresponds to test script data	✓
Pre-order responses match the expected results defined for each test script	✓ ¹⁷
Interface and system errors have been identified and testing incidents have been handled in accordance with the Testing Incidents Process (Appendix I)	✓
All Test Scripts have been completed	✓
All daily logs have been completed	✓
All performance benchmarks and parity requirements have been achieved in accordance with the Functionality Test Evaluation section of this document [TSD]	✓

2.2 Ordering/Provisioning

Ordering is the process that involves the creation, submission and acceptance of the CLEC's LSRs or ASRs to Qwest's OSS interface.

Provisioning consists of the processes that Qwest uses to install the service or facility ordered, or otherwise implement the CLEC order. It includes all associated transmission, wiring, and equipment necessary to provide service to an end user.

2.2.1 Introduction

The Functionality Test for ordering and provisioning involved the transmission of LSRs from the Pseudo-CLEC via IMA-GUI and EDI, including the receipt of Qwest responses by the Pseudo-CLEC, and provisioning of the service by Qwest.

2.2.2 Scope

As described in Section 3.7.5.1 of the TSD, the scope of the Functionality Test for ordering and provisioning activities encompassed the following:

¹⁷ IWOs were issued where expected results were not achieved

- Testing of Qwest's interfaces and order entry systems to validate the ability to receive LSRs via EDI, IMA-GUI and FAX as prescribed in the MTP
- Transmission of multiple order types by the Pseudo-CLEC to Qwest, including new installation, conversion as specified, conversion as is, change, suspend, restore, disconnect, cancellation (supp-to-cancel) orders and 911/DA database updates as required
- Qwest's transmission of Acknowledgements (EDI), Rejects, Jeopardy Notifications, FOCs, and SOC's to the Pseudo-CLEC
- Validation that each order was provisioned as specified in the order
- Processing of flow-through and non flow-through orders (i.e., those accepted by the SOP and those needing human intervention in order to create the internal Qwest service orders)
- Periodic reports of daily test activity
 - Number of tests run to date by category
 - Number of orders passed to date by category
 - Number of orders failed to date by category
 - IWOs recorded to date
 - Testing incident resolutions received to date (via PACs from Qwest)
 - Retests performed on PACs to date
 - Passed retests and failed retests (orders still in progress were not included on the reports, but were tracked)
 - For coordinated requests, determination if Qwest contacted the Pseudo-CLEC at the appropriate times and provided the appropriate information

2.2.3 Process

The Pseudo-CLEC created LSRs based on test scripts, using the results gathered during the pre-ordering process. Section 3.7.5.4 of the TSD describes the following major activities in the ordering process:

- Monitoring the order entry
- Tracking the progress of the orders
- Validating that the services were provisioned

These major activities are described below:

Monitoring

During the execution of the test scripts, CGE&Y had representatives on-site at the Pseudo-CLEC Order Entry Desk location. CGE&Y observed order entry methods, training effectiveness, and interactions between the Pseudo-CLEC and Qwest and documented unexpected results in IWOs.

If an LSR submission failed, the Pseudo-CLEC personnel compared the test script to the details entered on the LSR to ensure that there were no input errors. If the failure was due to input error, the Pseudo-CLEC re-entered the data correctly. If the data were correctly entered but the LSR failed, the test script was forwarded to CGE&Y for further investigation. CGE&Y either

- corrected and resubmitted the script,
- cancelled the test case and replaced it with another test case of the same scenario (test cases were only cancelled when an error occurred in generation of the script or a Friendly withdrew their participation), or
- issued an IWO when the failure could not be explained.

Tracking

Each test script was monitored by use of a tracking number assigned by CGE&Y. The tracking number was used by the Pseudo-CLEC to report order status to CGE&Y. CGE&Y used the tracking number to monitor the progress of each test case throughout its lifecycle. The Pseudo-CLEC and the participating DLEC provided CGE&Y with LSR, EDI Acknowledgement (ACK), FOC, Reject and SOC information on a daily basis. CGE&Y retained the data and provided statistics on the timeliness of Qwest order processing.

The TSD anticipated daily test status reports prepared from this information and transmitted to the ACC, and subsequently to the TAG at the ACC's discretion. However, to allow CGE&Y time to analyze the data received, the parties agreed that a bi-weekly, two-week delayed, report be provided to the TAG CLECs.

When the test case involved a participating CLEC, CGE&Y monitored and documented the Pseudo-CLEC LSR processing to Qwest, and sent the PRF (see Section 3.2 of Appendix F) to the participating CLEC to notify it of the due date.

Friendlylies Service Validation

CGE&Y notified Friendlylies of the scheduled due dates that service would be provisioned at their locations. The Friendlylies reported whether or not their

services were installed on the due dates. If service was not available on the due date and

- no order jeopardy had been received, the Friendly would report to CGE&Y when the service was installed.
- a non-facilities jeopardy had been received, a supplemental order was issued to establish a new due date and the customer was informed.
- an order completion had been received, a trouble ticket was opened and recorded as an unplanned trouble.

Service Validation

The TSD anticipated achieving service validation by accessing Qwest's switch and comparing feature/functionality via the IMA-GUI M&R Feature Availability function. During functionality testing, CGE&Y achieved service validation by having Friendlies use the features to test their operability. In addition, CGE&Y retrieved and verified CSRs, and validated that the services and features ordered were accurately reflected on the bill. Service validation during functionality testing was achieved for test cases involving a participating CLEC by having CGE&Y act as a representative of the Pseudo-CLEC. CGE&Y coordinated all test and turn-up activity between Qwest and the participating CLEC to ensure blindness, and recorded the results.

During retest, CGE&Y utilized the IMA-GUI M&R Feature Availability function to access Qwest switches to ensure that what was ordered on the LSR was provisioned in the switch. The following table lists the test cases that were verified. All test cases verified were correctly translated in the respective Qwest switches with the features specified on the LSR.

Tracking Number	Switch Type	Convert to	Features Ordered on LSR	Feature Verified in Switch
LPWP00106S	DMS100	UNE-P	1. ESM, 2. ESX, 3. ESC, 4. NSS, 5. NSQ	1. CFW, 2. CWT, 3. 3WC, 4. ACB NOAMA, 5. AR NOAMA
RESL04304S	DMS100	Resale	1. ESM, 2. ESX, 3. ESC, 4. NSS, 5. NSQ, 6. PORXX	1. CFW, 2. CWT, 3. 3WC, 4. ACB NOAMA, 5. AR NOAMA, 6. SDS AMSG
RESL04302S	DMS100	Resale	1. ESM, 2. ESX, 3. ESC, 4. NSS, 5. NSQ, 6. PORXX	1. CFW, 2. CWT, 3. 3WC, 4. ACB NOAMA, 5. AR NOAMA, 6. SDS AMSG
LPWP00102S	DMS100	UNE-P	1. ESM, 2. ESX, 3. ESC, 4. NSS, 5. NSQ	1. CFW, 2. CWT, 3. 3WC, 4. ACB NOAMA, 5. AR NOAMA
RESL04303S	DMS100	Resale	1. ESM, 2. ESX, 3. ESC, 4. NSS, 5. NSQ, 6. PORXX	1. CFW, 2. CWT, 3. 3WC, 4. ACB NOAMA, 5. AR NOAMA, 6. SDS AMSG

Tracking Number	Switch Type	Conversion to	Features Ordered on LSR	Feature Verified in Switch
LPWP04301S	DMS100	Resale	1. ESM, 2. ESX, 3. ESC, 4. NSS, 5. NSQ	1. CFW, 2. CWT, 3. 3WC, 4. ACB NOAMA, 5. AR NOAMA
RESL04305S	DMS100	UNE-P	1. ESM, 2. ESX, 3. ESC, 4. NSS, 5. NSQ	1. CFW, 2. CWT, 3. 3WC, 4. ACB NOAMA, 5. AR NOAMA
LPWP00107S	DMS100	UNE-P	1. ESM, 2. ESX, 3. ESC, 4. NSS, 5. NSQ, 6. U5R, 7. PORXX	1. CFW, 2. CWT, 3. 3WC, 4. ACB NOAMA, 5. AR NOAMA, 6. 1MR, 7. SDS AMSG
LPWP00104S	DMS100	UNE-P	1. ESM, 2. ESX, 3. ESC, 4. NSS, 5. NSQ	1. CFW, 2. CWT, 3. 3WC, 4. ACB NOAMA, 5. AR NOAMA
RESL04306S	DMS100	Resale	1. PORXX, 2. ESM, 3. ESX, 4. ESC, 5. NSS, 6. NSQ	1. SDS AMSG, 2. CFW, 3. CWT, 4. 3WC, 5. ACB NOAMA, 6. AR NOAMA
LPWP00101S	DMS100	UNE-P	1. ESM, 2. ESX, 3. ESC, 4. NSS, 5. NSQ	1. CFW, 2. CWT, 3. 3WC, 4. ACB NOAMA, 5. AR NOAMA
LPWP00105S	DMS100	UNE-P	1. ESM, 2. ESX, 3. ESC, 4. NSS, 5. NSQ	1. CFW, 2. CWT, 3. 3WC, 4. ACB NOAMA, 5. AR NOAMA
RESL04308S	DMS100	Resale	1. ESM, 2. ESX, 3. ESC, 4. NSS, 5. NSQ, 6. N2W, 7. AYK, 8. NNK	1. CFW, 2. CWT, 3. 3WC, 4. ACB NOAMA, 5. AR NOAMA, 6. SCWID, 7. ACRJ, 8. CND NOAMA
LPWP00108S	5ESS	UNE-P	1. ESX, 2. PORXX	1. /CWC1, 2. PORTED-IN AMAN, NON COND TRIG N
LPWP00109S	5ESS	UNE-P	1. AYK, 2. ESC, 3. ESM, 4. NNK, 5. NSQ, 6. NSS, 7. NSY	1. UCR=Y, 2. /MW3WC, 3. /CFV, 4. /LIRCNP, 5. /LAC1, 6. /LAR1, 7. SCRFRG

Cooperative Loop Testing

The purpose of cooperative loop testing was to determine if each loop using the participating CLEC facilities to the customer location was provisioned as ordered, thus enabling end-to-end testing. All testing performed by the participating CLEC was coordinated and monitored by CGE&Y, and the results were documented for each order by CGE&Y (see Appendix G for example).

According to Section 3.6(a) of the TSD, CLECs that participated in the testing effort by providing collocation facilities were also responsible for allowing certain tests to be monitored by CGE&Y. CGE&Y, the Pseudo-CLEC, and a participating CLEC agreed on the process for cooperative loop testing (see Appendix F) during a series of conference calls.

Cooperative loop testing was applied to the provisioning of new UNE-L, conversions, UNE-P to UNE-L conversions, new UNE-L with LNP, and stand-alone LNP test cases. Participating CLEC collocation cages at specific Qwest locations were identified and provisioned.

In preparation for cooperative loop testing, CGE&Y acquired a list of participating CLEC facilities and pre-provisioned TNs at collocation sites. These facilities covered 13 different Qwest Central Office (CO) locations.

During the execution of the test scripts, the following additional CGE&Y activities were performed, which were unique to cooperative loop testing:

- Upon receipt of FOC sent PRF to the participating CLEC for switch activation
- Coordinated participating CLEC turn-up activities for coordinated hot cuts (CHC)
- Performed test calls before and after conversion involving LNP to verify porting
- Received PRF from participating CLEC to document test results

2.2.3.1 Order/Provisioning Entrance Criteria

Per Section 3.7.5.3 of the TSD, prior to commencing the Functionality Test for order entry and provisioning, the following entrance criteria were met:

Criterion	Completed
All Order and Provisioning Performance Measurements have been tested and successfully passed.	✓ ¹⁸
Receive the number of iterations for each Test Scenario from the Statistical Team	✓
All pre-order entrance criteria have been met	✓
Sufficient Pseudo-CLEC and Qwest resources available to process the test scripts as scheduled based on statistical volume projections	✓
Friendly volunteers are available to begin testing	✓
Collocation assignments have been established at the	

¹⁸ See Performance Measurement evaluation in Section 2.5 of this report.

Criterion	Completed
CLEC demarcation points in Qwest and end offices	✓
Adequate procedures for monitoring Pseudo-CLEC activities have been established	✓
Test scripts have been completed and are ready to be delivered to the Pseudo-CLEC by the TA	✓

2.2.4 Results

CGE&Y identified Qwest system, process, and/or training issues resulting in IWOs that were generated in accordance with the process specified in Appendix I of the TSD. The summary of IWOs can be found in Appendix B of this report.

The following table displays the products tested and the number of orders issued for each product cell to meet the sample size requirements specified in Section 9.2 of the TSD:

Product Cell #	Products	Scenario	Number of Orders issued (Including Retest)
1	UNE-Loop Planned 140 Issued 244	Install UNE-Loop Single Business Line	12
		Install UNE-Loop Multiple Business Lines	8
		Convert Retail to UNE-Loop Single Business Line	58
		Convert Retail to UNE-Loop Multiple Business Lines	10
		Change UNE-P to UNE-Loop Single Business Line	51
		Change UNE-P to UNE-Loop Multiple Business Lines	4
		Change CFA (Connecting Facility Assignment)	12
		Change Due Date	16
		Cancel UNE-Loop Order	23
		Disconnect UNE-Loop Single Line	19
		Disconnect UNE-Loop Multiple Lines	31
2	Business POTS Install (Resale) Planned 140 Issued 206	Install Single Business Line	105
		Install Multiple Business Lines	17
		Disconnect Single Business Line	51
		Disconnect Multiple Business Lines	33
3	Business POTS Conversion (Resale) Planned 140 Issued 142	Convert Retail to Resale Single Business Line	98
		Convert Retail to Resale Multiple Business lines	37
		Migrate Retail to Resale	7
4	Private Lines Planned 50 Issued 63	Install Private Line	2
		Convert Retail Private line to Resale	61
5	ISDN – ADSL Planned 50 Issued 104	Install new ADSL-qualified UNE loop	3
		Convert retail to ADSL-qualified UNE loop	7
		Convert single line retail to DSL	22
		Install new Resale ISDN	15
		Convert Retail ISDN to Resale ISDN	40
		Change features on Resale ISDN	8
		Disconnect ADSL-qualified UNE-Loop	3

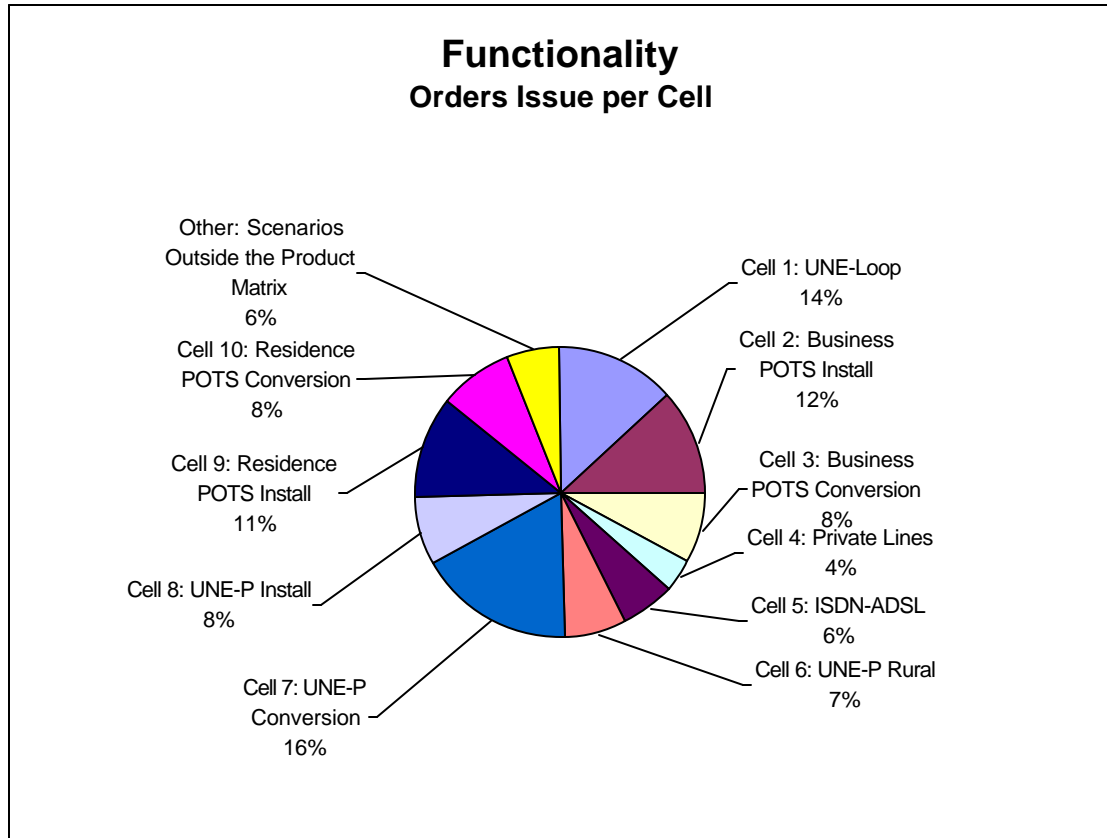
Product Cell #	Products	Scenario	Number of Orders issued (Including Retest)
		Disconnect ISDN	6
6	UNE- P Rural Planned 140* Issued 124	Convert Retail Single Business line to UNE- P	16
		Convert Resale to UNE- P Single Business Line	14
		Convert Resale to UNE- P Single Residence Line	35
		Convert Retail to Resale Single Business Line	14
		Convert Retail to Resale Single Residence Line	45
7	UNE- P Conversion Planned 140 Issued 310	Convert Retail to UNE- P Single Business Line	26
		Convert Retail to UNE- P Multiple Business lines	9
		Convert Retail to UNE- P Single Residence Line	66
		Convert Retail to UNE- P Multiple Residence Lines	15
		Convert Resale to UNE- P Single Business Line	32
		Convert Resale to UNE- P Multiple Business lines	18
		Convert Resale to UNE- P Single Residence Line	50
		Convert Resale to UNE- P Multiple Residence Lines	18
		Change features on Resale UNE- P	12
		Change PIC/LPIC	2
		Change Directory Listing	3
		Outside Move	1
		Disconnect UNE- P Single Line	46
		Disconnect UNE- P Multiple Lines	12
8	UNE- P Install Planned 140 Issued 140	Install UNE- P Single Line	127
		Install UNE- P Multiple Lines	13
9	Residential POTS Install (Resale) Planned 140 Issued 203	Install Single Residence Line	92
		Install Multiple Residence Lines	36
		Disconnect Single Residence Line	43
		Disconnect Multiple Residence Lines	32
10	Residential POTS Conversion (Resale) Planned 140 Issued 149	Convert Retail to Resale Single Residence Line	103
		Convert Retail to Resale Multiple Residence Lines	46
Other	Scenarios Outside the Product Matrix Planned 47 Issued 105	Convert Retail CENTREX to Resale CENTREX	38
		Disconnect Resale Centrex	4
		Convert Retail PBX to Resale PBX	27
		Add/Remove Feature(s) on Resale PBX	2
		Disconnect Resale PBX	1
		Change of Directory Listing	14
		Install EEL	3
		Suspend and Restore	6
Disconnect Retail and port TN			10
Total Order Issued			1790

***Note for Cell 6:** Deficiency in rural friendly addresses prevented the execution of sufficient tests to meet the number planned.

The total test case population illustrated in the preceding table displays a likely mix of products and order activity that would be generated by a start-up CLEC.

Figure 2.2.4a presents the information from the preceding table, illustrating the percentage of test cases executed for each product.

Figure 2.2.4a



Emerging Services Test Results

In early March 2001, the TAG initiated discussion on the testing of Qwest's "Emerging Services" based on FCC comments. The TAG agreed that CGE&Y should evaluate the services listed below. These services are not included in the preceding table.

- Enhanced Extended Loop (EEL)
- Unbundled Dedicated Interoffice Transport (UDIT)
- Unbundled Sub-Loop
- Unbundled Dark Fiber (UDF)
- Line Sharing
- Line Splitting

This section of the report contains an evaluation of the procedures that CLECs would use to order the Qwest Emerging Services listed above.

CGE&Y accessed documentation and procedures at the Qwest Wholesale Services website in order to perform this evaluation.

With the exception of the EEL product, and the pre-ordering stage of UDF, this will only be an evaluation of Qwest's ordering documentation.

- Enhanced Extended Loop (EEL)

During functionality testing a Qwest Emerging Service offering, EEL, was tested. An EEL is a dedicated circuit originating at a CLEC collocation site within a ILEC CO and terminating at an end user's location served by a different ILEC CO but within the same Local Access Transport Area (LATA). The EEL is a combination of loop and interoffice facilities and may also include multiplexing and concentration capabilities. The intent of the product line is to offer a CLEC the capability to provide local service to an end user without collocation presence located in the serving wire center if the CLEC certifies that the circuit is carrying a "significant amount of Local Exchange Traffic."¹⁹ An EEL cannot be connected to a Qwest tariffed service.

Appendix A of the MTP specifies that four different scenarios of EEL products are to be tested. Following is a list of the EEL scenarios and their test results:

MTP Scenario	Scenario Description	Test Result
168	Scenario 168: New connect of one EEL; point-to-point configuration.	CGE&Y was able to successfully test this scenario.
169	Convert one retail DS-1 private line to EEL point-to-point configuration.	CGE&Y was unable to test this scenario, as no existing DS-1 service was available.
170	Install one DS-1 EEL to existing EEL service.	CGE&Y was unable to test this scenario, as no existing EEL service was available at time of the test.
171	New connect of one DS-0; specify this is an EEL in the comment section of the ASR. (CFA required from the multiplexed termination)	CGE&Y was unable to test this scenario, as the Pseudo-CLEC was not certified to issue ASRs.

Process

CGE&Y obtained support for the testing of UNEs (DS-3) assignments in four different Qwest serving COs from AT&T to perform this evaluation.

¹⁹

The options for meeting that requirement can be found in the FCC's June 2, 2000 order in CC 96-98, FCC00-183, paragraph 22.

During May 2001, CGE&Y attempted to process five EEL-P orders, using the LSR process. All orders were rejected by Qwest. CGE&Y determined that documentation contained on the Qwest Wholesale website provided limited information pertaining to the ordering of EEL products. When the Pseudo-CLEC contacted the Qwest Help Desk for assistance, conflicting responses were received, including:

- The EEL product must be ordered via an ASR.
- The EEL product cannot be ordered.
- The Resale Private Line (RPL) form is required to order an EEL.
- The CLEC service manager must be contacted to order EELs.

CGE&Y contacted the Qwest service manager and was informed that an LSR was to be used for EEL-P orders and to check the Qwest Wholesale website for details. CGE&Y located and evaluated the “Statement of Generally Available Terms (SGAT) and Conditions for Interconnection, Unbundled Network Elements, and Resale of Telecommunications Services Provided by Qwest Corporation in the State of Arizona,” Fourth Revision, dated February 12, 2001. CGE&Y determined that the SGAT provided information on service availability, but did not include the necessary information describing the LSR ordering process. The SGAT did not provide links to other Qwest Wholesale websites for information needed to order EEL service.

CGE&Y continued investigating the procedures for ordering EELs during the retest effort. Prior to issuing EEL orders in retest, the Qwest Wholesale website was accessed to determine if new information was available. CGE&Y found that several new or revised documents were made available in August 2001. In particular, the “Qwest Communications International Inc. Technical Publication,” Issue B, dated June 2001 and the “Qwest IMA User’s Guide,” modified August 17, 2001 have detailed directions for issuing EEL via LSR in IMA-GUI. There was also an online training course for EEL submission in IMA-GUI that was dated August 3, 2001.

Using the newly developed documentation, CGE&Y was able to successfully issue an LSR for an EEL. CGE&Y representatives observed the process of documentation retrieval and estimated that a total of 36 hours were spent conducting research prior to issuance of any LSRs.

In October 2001, CGE&Y submitted two EEL-P orders to the Pseudo-CLEC for LSR submission using the same collocation facilities. Both LSRs were rejected due to an unavailable CFA. The remaining order for EEL-P service was submitted to the Pseudo-CLEC. This LSR received a FOC and a SOC.

CGE&Y was able to successfully process EEL orders during the retest phase of the Functionality Test. The following table identifies the EEL orders issued during the retest effort:

Tracking Number	RESL168002	RESL168003	RESL168004
PON	A60T0268031003*01	A60T0368021003*01	A60T0468021024*01
Order Number	N/A	N/A	N65860375
Notes	Rejected: CFA slot 49 in use need new slot # for CFA	Rejected: CFA slot 49 in use. Need new slot # for CFA.	Issued: N68560375 Due Date 11/7. EEL Option 3. AN for account is 602C001540-175
LSR	3221208 10/03/01 4:07PM	3221075 10/03/01 3:55PM	3344496 10/24/01 12:42PM
FOC Date/Time	N/A	N/A	10/25/01 9:36AM 10/25/01 12:50PM
Reject Date/Time	10/15/01 12:05PM 10/15/01 1:33PM	10/01/01 7:41AM	
SOC Date			11/01/01

As indicated in the preceding table, one EEL order was successfully issued, the other two EEL orders were rejected.

Findings

Documentation and Qwest personnel training on service request submission for EEL service was not complete in May 2001. As of September 2001 the Qwest website contained the information necessary to successfully submit an EEL LSR. The Qwest website is not user friendly in making it easy to find this information.

CGE&Y found that when the LSR is submitted correctly, the EEL-P service offering is obtainable by a CLEC through the Qwest OSS.

- Unbundled Dedicated Interoffice Transport (UDIT)

A UDIT is a network element consisting of a single transmission path between Qwest end offices, serving wire centers or tandem switches in the same LATA and state. A UDIT can also provide a path between one CLEC in one Qwest wire center and a different CLEC in another Qwest wire center. These paths may be Digital Service Level 0 (DS-0), DS-1, DS-3, Optical Carrier Level 3

(OC-3) OC-12, OC-48, OC-192, and such higher capacities as evolve over time and where facilities are available.

Individual products include UDIT, Extended UDIT (E-UDIT), Dangling UDIT (D-UDIT), Split UDIT (S-UDIT), and Meet-Point UDIT (M-UDIT). Ancillary UDIT products are also available, i.e., Multiplexing, Unbundled Customer Controlled Rearrangement Elements (UCCRE), Remote Node/Remote Port, Regeneration, and Rearrangements. UDITs are limited to existing facilities only.

Process

CGE&Y evaluated the following documents to determine if Qwest provides sufficient information for a CLEC to order a UDIT:

- “Unbundled Dedicated Interoffice Transport (UDIT) Product Catalog (PCAT)”
- “Qwest Communications International Inc. Technical Publication, Unbundled Dedicated Interoffice Transport (UDIT),” # 77389, Issue F, dated November 2001
- “Statement of Generally Available Terms (SGAT) and Conditions for Interconnection, Unbundled Network Elements, Ancillary Services and Resale of Telecommunications Services Provided by Qwest Corporation in the State of Arizona,” Eighth Revision, dated October 25, 2001

The Qwest Technical Publication #77389 was reviewed to determine if a CLEC could understand the technical parameters of the UDIT product. The UDIT PCAT was evaluated to determine if it provided the CLEC with sufficient information to order a UDIT. The SGAT was reviewed to the extent that it was referenced in the PCAT.

CGE&Y also reviewed status logs for 5 UDIT DS-3s that WorldCom ordered in October 2001. The circuits were designed from the Rhythms DSX jack to WorldCom with a Qwest cross connection to the Rhythms collocation cage.

The table below identifies the DS-3s ordered by WorldCom.

WCOM PON	Qwest Order Number	Qwest Circuit ID	CFA	ASR Issue Date	FOC received Date	FOC Late* Yes/No
401176	C63879640	74/HFFU/402098/P N/	PDV02/2/BLLVWAGL/ BLLVWAGLHG2	10/09/01	10/19/01	Yes
401177	C45591013	74/HFFU/402090/P N/	ALV06/2/BLLVWASH/ BLLVWASHG5	10/08/01	10/10/01	No
401181	C55813557	74/HFFU/402088/P N/	ALV03/2/RNTNWA01/ RNTNWA01HG3	10/05/01	10/10/01	Yes
401183	C63879592	74/HFFU/402091/P N/	ALV07/2/STTLWA01/ STTLWA01HG7	10/09/01	10/10/01	No

WCOM PON	Qwest Order Number	Qwest Circuit ID	CFA	ASR Issue Date	FOC received Date	FOC Late* Yes/No
401184	C63879598	74/HFFU/402092//P N/	ALV04/2/STTLWA03/S TTLWA03HG5	10/09/01	10/26/01	Yes

*FOC was considered late if not received in two business days from issuance of ASR

** Qwest's records indicate that this LSR received a FOC on 10/12/01 at 16:14 PM

Findings

"Qwest Communications International Inc. Technical Publication, Unbundled Dedicated Interoffice Transport (UDIT)," # 77389, Issue F, dated November 2001 provides the CLEC with a description of the UDIT product. It also provides the necessary information on UNEs and the Network Channel and Network Channel Interface codes (NC/NCI) required for the different UDIT types. This document is written in a clear and concise manner and gives a CLEC an understanding of the different UDIT types.

Publication #77389 is not intended by Qwest to provide the CLEC with the information needed to order UDIT.

The UDIT PCAT also explains the process for ordering UDITs. It provides a description of each UDIT product. It also provides information on all aspects of the UDIT process. The topics discussed in the PCAT include:

- Product Description
- Pricing
- Features/Benefits
- Implementation

The PCAT also provides information such as Qwest Contacts, Billing, Training and FAQs.

A CLEC may order all UDIT types, except OC-192 using the ASR process by specifying the unique NC/NCI codes. The NC/NCI codes are detailed in Publication #77389. The ordering of OC-192 UDITS is accomplished by the Special Request Process (SRP), which is described in either the PCAT or Exhibit F of the Arizona SGAT.

While the PCAT refers the CLEC to the Access Service Ordering Guidelines (ASOG) for detailed ordering instructions, it does provide a chart showing, by UDIT product, which ASOG forms are required.

The PCAT also identifies specific ordering requirements applicable to each product type.

CGE&Y concludes that Technical Publication 77389 and the UDIT PCAT provides the CLEC with sufficient information to successfully order a UDIT.

As a result of the review CGE&Y made the following observations:

- WorldCom and Rhythms records did not match on any of the five circuits
- Rhythms and Qwest records did not match on the following three orders:

PON 401177 (Rhythms to correct)
 PON 401181 (Rhythms to correct)
 PON 401183 (Rhythms to correct)

- Once Rhythms corrected problem end to end testing was completed
- Qwest issued late FOCs for two of the five ASRs (See table below)

WCOM PON	QWEST Order Number	ASR Issue Date	FOC received Date	Reason FOC was Late
401176	C63879640	10/09/01	10/15/01	Qwest's records indicate that the FOC was sent on 10/12/01 not 10/15/2001
401181	C55813557	10/05/01	10/10/01	Qwest's records indicate that the ASR was issued on 10/08, not on 10/05. Based on Qwest's records this FOC was not late.
401184	C63879598	10/09/01	10/26/01	Qwest had to add Rhythms ACTL to billing system.

- WorldCom tested with Qwest and all five circuits tested OK
- Qwest successfully escalated the installation for the one order that WorldCom escalated (PON 401184)
- CGE&Y issued two Data Requests (DR268 and DR-269) to determine why the Rhythms ACTL was not in the Qwest database, the cause for the late FOCs and the cause of the CFA mismatch between Qwest and Rhythms.

Qwest responded to the Data Requests as follows:

-DR 268-

With regard to the CFA mismatch between Qwest and Rhythms, Qwest reported that Qwest processed the order as received and did not change the CFA which was on the ASR.

With regard to the ACTL not being established in billing system, Qwest stated that, the ACTL was an existing ACTL associated with CCNA "MPL" only. Before issuing the order, Qwest needed to have the ACTL added to the "MFZ"

CCNA, so the order could be issued. Qwest sent an internal request to have this work done. IABS will not allow an order to go down stream if the RPOI hasn't been added to the RBAN. Qwest provisioning notified Billing on 10/10/01, that this needed to be done, which was completed on 10/25/01. The order was then issued.

Qwest further stated that the customer should have had this built to the correct CCNA when the ACTL was originally established. If so, this would not have happened.

-DR 269-

With regard to the late FOCs, Qwest's records indicated that the FOC for 401176 was sent on 10/12/01 not 10/15/01 as WorldCom's records indicate. However, the FOC was still late.

Qwest's records indicated that the ASR PON 401181 was issued on 10/08/01 not 10/05/01 as indicated by WorldCom. Since the FOC was issued on 10/10/01, this FOC was not late.

Conclusion

Based on the above review, CGE&Y concludes that Worldcom did successfully order UDITS. Although the UDITS reviewed were for UDITS ordered in the Washington State, as Qwest states in its response to DR-269, the same centers handle UDIT orders for Washington and Arizona. None of the problems associated with the ordering of these five UDITS were directly related to the fact that it was the UDIT product that was being ordered.

- **Unbundled Sub-Loop**

This product is a combination of two existing Qwest products: Unbundled Sub-Loops and Field Interconnection Points.

Qwest currently offers three Unbundled Sub-Loop product offerings in Arizona:

- Unbundled Feeder Loop (UFL), the F1 or Feeder portion of an unbundled loop that originates at the Qwest CO and ends at the Feeder Distribution Interface (FDI)
- Unbundled Distribution Loop (UDL), the F2 or distribution portion of an unbundled loop from the FDI to the Network Interface Device (NID) on the end-user premises
- Unbundled Intra-Building Cable (IBC), a Qwest-provided distribution facility from a Multi-Tenant Environment (MTE) terminal, inside or attached to a MTE building, to the demarcation point (typically the NID) at the end-user premises inside the same building.

Qwest also offers a Field Interconnection Point product, also known as Cross-Connect Collocation. A Field Interconnection Point is a demarcation point outside of the Qwest CO where CLEC facilities interconnect with Qwest facilities. The Field Interconnection Point is located in the Feeder Distribution Interface (FDI) /Serving Area Interface (SAI) or other technically feasible location. The Field Interconnection Point provides a point of interconnection away from the Qwest CO and provides access to the following Sub-Loop elements:

- UFL
- UDL

Process

CGE&Y evaluated the following documents to determine if Qwest provides sufficient information for a CLEC to order an Unbundled Sub-Loop:

- “Qwest Communications International Inc. Technical Publication, Interconnection – Unbundled Sub-Loops and Field Interconnection,” # 77405, Issue C, September 2001
- Sub-Loop PCAT
- Field Interconnection Point PCAT

The Qwest Technical Publication #77405 was reviewed to determine if a CLEC could understand the technical parameters of the Interconnection - Unbundled Sub Loops and Field Interconnection Point product. The Sub-Loop PCAT was evaluated to determine if it provided the CLEC with sufficient information to order a Sub-Loop. The Field Connection Point PCAT was evaluated to determine if it provided the CLEC with sufficient information to order a Field Connection Point to be used for Sub-Loop facility interconnection.

Findings

Interconnection – Unbundled Sub-Loops and Field Interconnection, (Technical Publication # 77405, Issue C, September 2001) provides the CLEC with a description of the Interconnection – Unbundled Sub-Loops and Field Interconnection product. This document is written in a clear and concise manner and provides an understanding of how and why this product would be used by the CLEC. It also outlines the responsibilities of Qwest and the CLEC. It provides information on the different configurations of Field Interconnection Points using both CLEC and Qwest facilities. Publication # 77405 is not intended by Qwest to provide the CLEC with the information needed to order Unbundled Sub-Loops and Field Interconnection.

CGE&Y determined that the ordering of Unbundled Sub-Loops and Field Interconnection Points is a two-step procedure:

1. The CLEC submits an Field Interconnection Point Request Application Order Form to the Collocation Project Management Center (CPMC) Order Validation Team via email.
2. The CLEC submits an LSR for the Sub-Loop.

1) The Field Interconnection Point PCAT explains the process for ordering a Field Interconnection Point for the use of interconnection of Sub-Loops with themselves or with CLEC facilities. It also provides information on all aspects of the establishment and prerequisites for the establishment of a Field Interconnection Point. The topics discussed include:

- Product Description
- Availability
- Terms and Conditions
- Pricing
- Applications
- Implementation

The PCAT also provides information such as Qwest Contacts, Billing, Training, and FAQs.

The document explains in detail the ordering of Field Interconnection Points including:

- Submission of a completed FCP Request Application Order Form to the Collocation Project Management Center (CPMC) Order Validation Team via e-mail to rfsmet@qwest.com
- The feasibility study conducted by the CPMC to determine whether or not the request can be satisfied
- The feasibility report completed by the CPMC
- The Ready for Service (RFS) date provided by the CPMC
- The formal price quote is sent to the CLEC by the CPMC
- The Acceptance Phase for the CLEC
- Timelines for each item

2) The Sub-Loop PCAT explains the process for ordering Sub-Loops. It provides a description of each Sub-Loop product. The topics discussed include:

- Product Description
- Pricing
- Features/Benefits
- Applications
- Implementation

The PCAT also provides information such as Qwest Contacts, Billing, Training, and FAQs.

The PCAT also identifies specific ordering requirements applicable to each product type and references the IMA Referenced Guide for detailed information on the ordering functions.

CGE&Y finds that the Qwest Wholesale website provides the necessary information to order Unbundled Sub Loops and Field Interconnection if the CLEC is experienced with the Outside Plant Configurations, Technical Publication # 77405, the Sub-Loop PCAT, and the Field Connection Point PCAT.

- **Unbundled Dark Fiber**

UDF is a deployed, unlit pair of fiber optic cable or strands that connects two points within Qwest's network. A UDF is a single, existing transmission path that terminates on a Qwest Fiber Distribution Panel (FDP) or equivalent, between two Qwest wire centers, between a Qwest wire center and a CLEC wire center, or between a Qwest wire center and an appropriate outside plant structure or end-user premises.

Qwest offers UDF in the following configurations in Arizona:

- UDF Interoffice Facility (UDF-IOF) provides a deployed route between two Qwest wire centers.
- UDF-Loop provides a deployed route between a Qwest wire center and the end-user premises, or a Qwest wire center and an approved outside plant structure ((Controlled Environmental Vault (CEV), Hut, Remote Terminal (RT), etc.)).
- Extended UDF (E-UDF) provides a deployed route between a Qwest wire center and the CLEC's wire center.

Process

CGE&Y evaluated the following documents to determine if Qwest provides sufficient information for a CLEC to order a UDF:

- "Qwest Communications International Inc. Technical Publication, Unbundled Dark Fiber (UDF)," #77383, Issue G, dated December 2001
- Unbundled Dark Fiber PCAT, last update October 29, 2001
- "Statement of Generally Available Terms (SGAT) and Conditions for Interconnection, Unbundled Network Elements, Ancillary Services, and Resale of Telecommunications Services Provided by Qwest Corporation in the State of Arizona," Eighth Revision, dated October 25, 2001

- Qwest Dark Fiber (UDF) – CLEC Ordering Job Aide (Interim Manual Process), October 29th Edition

The Qwest Technical Publication #77383 was reviewed to determine if a CLEC could understand the technical parameters of the UDF product. The UDF PCAT was evaluated to determine if it provided the CLEC with sufficient information to order a UDF. The SGAT reviewed to the extent that it was referenced in the PCAT.

Findings

“Qwest Communications International Inc. Technical Publication, Unbundled Dark Fiber (UDF),” #77383, Issue G, dated December 2001 provides the CLEC with a description of the UDF product, the fiber technical parameters and related design responsibilities. It also outlines the responsibilities of Qwest and the CLECs. This document is written in a clear and concise manner and gives a CLEC an understanding of the different configurations of UDF. Publication is not intended by Qwest to provide the CLEC with the information needed to order UDF.

The ordering of UDF is a manual, two-stage process. Qwest’s “The Unbundled Dark Fiber (UDF) CLEC Ordering Job Aid Interim Manual Order Process” describes these stages as the Inquiry Stage (Pre-Ordering) and the Provisioning Stage (Ordering). This document provided a detailed explanation of the UDF ordering process. It takes the CLEC step by step through the inquiry and provisioning stages. It also refers user to websites, which provide additional information to complete the process.

The PCAT also explains the process for ordering UDF. It is much more detailed than the job aid. It provides information in all aspects of the UDF process. The topics discussed in the PCAT include:

- Product Description
- Pricing
- Features/Benefits
- Implementation

The PCAT also provides information such as Qwest Contacts, Billing, Training, FAQs, etc.

The UDF job aide, Technical Publication 77383 and the UDF PCAT provide the a CLEC with the information necessary to order a UDF. In some cases the CLEC will have to go to sources listed in the above documents to obtain specific information. The PCAT refers the CLEC to the Systems General Information web site to obtain information on the Fiber Data Reports. Since access to this

report is an important step in the process, it is important that it be included in the PCAT.

Documentation of this test case is found in file FT#11, Dark Fiber.

- **Line Sharing**

Line Sharing also known as Shared Loop, provides the CLEC with the opportunity to offer end-users advanced data services over the existing copper loop that provides the end-user's analog voice-grade (Plain Old Telephone Service (POTS)) Service. This is accomplished by using the frequency range above the voice band of the copper loop where Qwest provides voice service to the end-user.

Prior to ordering the Line Sharing product, the CLEC is required to provide a POTS splitter in the CLEC's collocation space in either the Qwest Wire Center or in the Common Area Splitter Collocation in the Qwest Wire Center that serves the end-user. The POTS splitter separates the voice and data traffic and allows the copper loop to be used for simultaneous Data Local Exchange Carrier (DLEC) data transmission while Qwest provides the voice service to the end-user.

Additional information describing the POTS splitter configurations is available at the Qwest Wholesale web page.

A CLEC may only order Line Sharing on lines where Qwest provides the voice portion of service to the end-user. The CLEC is responsible for providing all equipment required to separate voice and data service across the copper loop.

Process

CGE&Y evaluated the documentation provided on the Qwest Wholesale web-site to determine if enough information was provided for a CLEC to order Line Sharing. The following documents were located and evaluated:

- Qwest Communications International Inc. Technical Publication, Interconnection – Shared Loop, (Technical Publication # 77406 Issue B, June 2001)
- Line Sharing/Shared Loop PCAT, Last Update November 8, 2001
- Statement of General Available Terms and Conditions for Interconnection, Unbundled Network Elements, Ancillary Services, and Resale Telecommunications Services Provided by Qwest Corporation in the State of Arizona, eighth revision, October 25, 2001 (SGAT)

In particular, the Qwest Technical Publication 77406 was reviewed to determine if a CLEC could understand the technical parameters of the Line Sharing product. The Line Sharing PCAT was evaluated to determine if it provided the

CLEC with sufficient information to order Line Sharing. The SGAT was reviewed to the extent that it was referenced in the PCAT.

Findings

CGE&Y finds that information located on the dedicated Qwest Wholesale web-site is sufficient for a CLEC to order the Line Sharing/Shared Loop. The following is a high level outline of the information provided:

- Product Description
- Availability
- Terms and Conditions
- Product Diagram
- Technical Publication
- Pricing
- Rates
- Tariffs, Regulations & Policy

The Qwest Wholesale web-site also contained information on Pre-Requisites, Pre-Ordering, Provisioning, Maintenance, Billing, Qwest contacts, IMA Hands On training, FAQs, and other useful information.

Each sub-category contained information that was supported by active web links. As the information was reviewed, CGE&Y utilized the web links provided. Each link reviewed was accurate and contained the information as indicated on the information website.

The supporting Technical Publication is listed and also connected to an active web link. This document is easily available and usable and the direction provided covers the areas discussed at the web site.

The supporting technical references are contained in Technical Publication 77406 (June 2001), Chapter 2 with illustrations on page 2-3. CGE&Y finds that the Qwest Technical Publication provides clear requirements and parameters for Line Splitting that is a sub-heading for Shared Loop Service.

CGE&Y finds that the Qwest Wholesale web-site presents the product and the various options, billing, maintenance and actual purpose of use in a clear manner. The web site also contains active links to the Account Teams that provide support for the particular products.

- Line Splitting

Line Splitting provides a CLEC with the opportunity to offer advanced data service simultaneously with an existing Unbundled Network Elements Platform (UNE-P) Plain Old Telephone Service (POTS) by using the frequency range above the voice band on the copper loop. The advanced data service may be

provided by the CLEC/Data Local Exchange Carrier (DLEC) or another service provider chosen by the CLEC.

In this section of the document, CLEC will refer to the voice provider, and DLEC to the advanced data service provider. Only one customer of record determined by the CLEC/DLEC partnership, can be identified to Qwest. The customer of record is the CLEC/DLEC that is billed for the Line Splitting. The customer of record may designate an authorized agent to perform ordering and/or maintenance and repair functions.

A POTS splitter is required to separate the voice and data traffic and allows the copper loop to be used for simultaneous DLEC data transmission while the CLEC provide the voice service to the end-user. The POTS splitter can be located in the CLEC collocation space in the Qwest Wire Center or in the Common Area Splitter Collocation in the Qwest Wire Center that serves the end-user.

Line Splitting can only be ordered on existing UNE-P POTS accounts. Either the CLEC or the DLEC is responsible for providing the end-user with all equipment required to receive separate voice and data services across a copper loop.

Process

CGE&Y evaluated the following documents to determine if Qwest provided sufficient information for a CLEC to order Line Sharing:

- Qwest Communications International Inc. Technical Publication, Interconnection – Shared Loop, (Technical Publication # 77406 Issue B, June 2001)
- Line Splitting PCAT, Last Update November 8, 2001
- Statement of General Available Terms and Conditions for Interconnection, Unbundled Network Elements, Ancillary Services, and Resale Telecommunications Services Provided by Qwest Corporation in the State of Arizona, eighth revision, October 25, 2001 (SGAT)

The Qwest Technical Publication 77406 was reviewed to determine if a CLEC could understand the technical parameters of the Line Sharing product. The PCAT was evaluated to determine if it provided the CLEC with sufficient information to order Line Splitting. The SGAT was reviewed to the extent that it was referenced in the PCAT.

Findings

CGE&Y finds that the Qwest Wholesale website contains sufficient information for a CLEC to order Line Splitting. The following is a high level outline of the information provided:

- Product Description
- Pricing
- Features and Benefits
- Ordering
- Pre-Ordering
- Line Splitting with Port within Telephone #'s

The web-site also provides information such as Qwest Contacts, Billing, Training, and FAQs.

Each sub-category contained information that was supported by active web links. As the information was reviewed, CGE&Y utilized the web links provided. Each link reviewed was accurate and did contain the information as indicated on the information web site.

The supporting Technical Publication is listed and also connected to an active web link. This document is easily available and usable and the direction provided covers the areas discussed at the web site.

The supporting technical references are contained in Technical Publication 77406 (June 2001), Chapter 2 with illustrations on page 2-3. The Technical Publication shows clear requirements and parameters for Line Splitting that is a sub-heading for Shared Loop Service.

CGE&Y finds that the Qwest Wholesale website presents the product and the various options, billing, maintenance and actual purpose of use in a good, clearly stated manner. The website is also supported with active links to the account teams that provide support for the particular products.

The following observations were made during the ordering and provisioning of Resale and UNE orders. Where appropriate, an IWO was created and tracked through completion. A complete summary of IWOs is provided in Appendix B. In some cases, CGE&Y determined that retesting was required (see Appendix I of the TSD). The results of retesting are contained with each observation as appropriate:

During testing, CGE&Y experienced numerous instances of system tables in Qwest OSS not being properly updated. This prevented the Pseudo-CLEC from submitting orders. After several system table updates, Qwest implemented a process for quality control. (AZIWO1093, AZIWO1129, AZIWO2101, AZIWO1001, AZIWO1017) CGE&Y conducted a retest of these IWOs and determined that the IWOs could be closed as stated in those IWOs..

CGE&Y encountered instances where orders were completed, but CGE&Y was unable to process a subsequent change order until Qwest updated its reseller ID tables. This frequently took three to five business days. (AZIWO2060) CGE&Y conducted retest of this IWO and submitted 11 conversion orders to determine the interval for the Reseller Identification (RSID) to be posted to the CSR. CGE&Y established that 8 of 11 CSRs (73%) were updated on the third day after the SOC date. The remaining 3 CSRs (27%) were updated on the fifth day after the SOC date. CGE&Y found that the CSR information was correctly updated on all 11 CSRs within the established 3-5 business days which is the normal interval to update POTS and subsequently closed this IWO. CGE&Y also validated that Qwest published information on the wholesale website to assist CLECs when a “ Not authorized to retrieve CSR” error was encountered. CGE&Y also validated that error messages were implemented in IMA, decreasing the time a CLEC would spend on investigating the cause of errors received when retrieving CSRs. Therefore, it has been demonstrated that CLECs can process subsequent change orders when following the guidelines provided by Qwest, prior to the RSID update to the CSR.

CGE&Y encountered numerous instances when orders were completed, but Qwest did not provide a timely SOC. Of the 1,790 orders that received a SOC, 337 did not receive a SOC at the time of completion. Qwest has identified multiple causes, and has implemented system changes. In addition, Qwest has implemented daily review and monitoring processes that operate to provide LSR completions notifications to CLECs. (AZIWO1045) CGE&Y conducted retest of this IWO and determined that it could be closed as stated in that IWO.

During testing it was determined that FOCs are used by Qwest for purposes other than confirming the order. When a CLEC receives a FOC, they expect a due date to be confirmed. If multiple FOCs are received changing the status of the order (i.e., Due Date change, Jeopardy condition, Reject message), a CLEC

must manually interpret the impact of this status change on the order processing. CGE&Y created several IWOs addressing this issue:

- AZIWO1107: Involved 13 test cases that received an unsolicited FOC with a due date change. CGE&Y determined that this was a Qwest training opportunity. During retest 134 orders were executed to verify Qwest's response to this issue. No additional occurrence of this issue was discovered during testing. CGE&Y determined that this IWO should be closed based on the results logged during the test effort.
- AZIWO1114: One FOC received with two different due dates. CGE&Y determined that this was due to human error and was a Qwest training opportunity. During retest 171 orders were executed. Of the 171 orders, 135 desired due Dates were changed for various reasons. From the 135 due date changes, 134 changes followed the process documented in the "Firm Order Confirmation Evaluation Results," dated August 6, 2001, Version 1.0. One order did not follow Qwest's standard process. The first version changed the due date from 9/27/01 to 10/1/01 and was displayed in the order section. The change was also noted in the comment field. A non-fatal error was detected, a notice was sent to the Pseudo-CLEC and a corrected LSR was resubmitted. The next FOC notice displayed the due date as 9/27/01 instead of the new due date of 10/1/01. The comment field on the second LSR did note the new due date of 10/1/01. CGE&Y does not consider this one anomaly to be representative of the process described in "Firm Order Confirmation Evaluation Results," dated August 6, 2001, Version 1. CGE&Y determined that this IWO should be closed based on the results logged during the test effort.
- AZIWO2115: Four FOCs were identified (three after the SOC) where the FOC communication was being used for miscellaneous comments that may or may not require action by the CLEC. CGE&Y determined that this was a Qwest procedural issue. Qwest implemented a new procedure in September, 2001. CGE&Y conducted a retest to verify that the subject of this IWO has been addressed. CGE&Y utilized the Qwest FOC/Jeopardies processes and Error or Reject notification sections of the White Paper "Firm Order Confirmation Evaluation Results," dated August 6, 2001, as the guide during the evaluation of this IWO. CGE&Y processed and analyzed 148 retest accounts to verify the misuse of FOC. CGE&Y verified that FOCs were received during the period of inception and prior to completion of the LSRs, that FOCs were not received after SOC, that sequence notifications were received, and that procedures documented in the White Paper, "FOC Evaluation Results," Section 3 were followed. The retest effort did not focus on the evaluation of performance measurements (PIDs) but on the functionality of responses to LSRs submitted and received. CGE&Y determined that all FOCs were received during the period of order inception and prior to order completions. No incidents were experienced of receiving

FOCs after SOC's, and no conditions of chatter FOCs were observed during the retest effort. Standardization of Qwest process to e-mail or call the Pseudo-CLEC on any action that may impact the CLEC at time of posting to the billing systems was not experienced or recorded. Of the 148 test cases, 3 test cases deviated from the FOC White Paper:

1. Qwest honored one test case in which the desired due date did not follow the Standard Interval Guide (SIG) for the product. This is contrary to their standard procedures as defined in Section 3.2 of the FOC White Paper. The LSR was manually handled.
2. A test case received a 2nd FOC. This incident was analyzed against the FOC White Paper, Section 3.2 Processes. It is CGE&Y's understanding that a Reject should have been issued instead of a FOC, since the analysis determined that it was an error detected by Qwest after the FOC was issued.
3. A test case received a Reject for an unknown reason. A FOC following the Reject was then received honoring the desired due date.

CGE&Y has determined that this IWO can be closed based on the results logged during the retest effort.

- AZIWO2116: The Pseudo-CLEC received a FOC prior to the complete editing of the LSR. Qwest implemented edits earlier in the process to improve FOC reliability. CGE&Y conducted a retest to verify that the subject of this IWO has been addressed. During the retest effort and the analysis of test cases that received Rejects, the Pseudo-CLEC received one Reject after the FOC. CGE&Y's finding shows that the Rejects generated could have been prevented by the Pseudo-CLEC during the pre-ordering process. CGE&Y's analysis of the Rejects received also shows that Qwest implementation of up-front edits has improved the FOC process. CGE&Y has determined that this IWO can be closed based on the results logged during the retest effort of this IWO.
- AZIWO2069: An order was submitted via EDI and a FOC was not received. CGE&Y determined that this was a Qwest training opportunity. CGE&Y conducted a retest and generated 31 LSR EDI orders to determine if FOCs were not received by the Pseudo-CLEC. The following table provides the results of the effort:

Service Order Number	LSR Id and Issue Dte/ Time	FOC Date/Time	IWO 2069 CRITERIA MEET Y/N
D64143058	3183642 9/26/2001 4:16:00 PM	9/27/2001 7:47 AM	Y
D64228708	31879669 9/27/2001 11:22:00 AM	9/27/2001 5:33 PM	Y

Service Order Number	LSR Id and Issue Dte/ Time	FOC Date/Time	IWO 2069 CRITERIA MEET Y/N
D64221686	3187445 9/27/2001 10:30:00 AM	9/27/2001 4:03 PM	Y
D64183665	3187007 9/27/2001 9:50:00 AM	9/27/2001 11:50 PM	Y
D61295044	3190328 9/27/2001 2:50:00 PM	9/28/2001 9:27 AM	Y
N64396520 C64396519	3203977 10/01/01 11:31 AM	10/1/2001 2:58 PM	Y
C63229981	3243933 10/15/01 9:49 AM	10/15/2001 10:38 am	Y
C63229981	3280981 10/15/2001 9:49:00 AM	10/15/2001 10:38 PM	Y
N64242683	3190645 9/27/01 3:28 pm	9/28/2001 12:05 PM	y
C64145491 N64145492	3183694 9/26/2001 4:27:00 PM	9/27/2001 8:08 AM	Y
D64162601	3182493 9/26/2001 2:18:00 PM	9/27/2001 9:57 AM	Y
D64226352	3187356 9/27/2001 10:23:00 AM	9/27/2001 4:48 PM	Y
D64257342	3192540 9/28/2001 7:36:00 AM	9/28/2001 9:39 AM	Y
D64223915	3187993 9/27/2001 11:22:00 AM	9/27/2001 4:21 PM	Y
D64244450 N63872296	3189698 9/27/2001 1:57:00 PM	9/28/2001 8:08 AM	Y
N64132889	3211364 10/02/2001 11:30 PM	10/2/2001 1:42 PM	Y
C00714548	3192986 9/28/2001 8:25:00 AM	10/1/2001 12:52 PM	Y
D64141621 N64141622	3182864 9/26/2001	9/27/2001 9:24 AM	Y
D63229978 N63229979	3183510 9/26/2001 3:55:00 PM	9/26/2001 3:56:00 PM	Y
D64158109 N63362018	3179185 9/26/2001 9:48:00 AM	9/27/2001 19:24:00 AM	Y
D64155124 N00714905	3178616 9/26/2001 9:01:00 AM	9/27/2001 8:26 AM	y
D64528876 N64530057	3213207 10/2/2001 1:58:00 PM	10/2/2001 3:17 PM	y
D64170219 N64174820	3183142 9/26/2001 3:09:00 PM	9/27/2001 11:48 PM	y
D64433825 N64433859	3196473 9/28/2001 2:03:00 PM	10/1/2001 4:46 PM	y
D63229382 N63229383	3180240 9/26/01 11:15am	9/26/2001 11:16 PM	y
C63793224	3182811 9/26/2001 2:41:00 PM	9/27/2001 9:51 AM	y
C63721550	3179965 9/26/01 10:53:00 AM	9/26/2001 2:56PM	y
C63229997	3183570 9/26/2001 4:06:00 PM	9/26/2001	y

Service Order Number	LSR Id and Issue Dte/ Time	FOC Date/Time	IWO 2069 CRITERIA MEET Y/N
	4:06:00 PM	4:07 PM	
D63229369	3180186 9/26/2001 11:09:00 AM	9/26/2001 11:10 AM	y
D64127084	3183945 9/26/01 5:17 pm	9/26/01 5:31 PM	Y
D64158359	3186440 9/27/2001 9:04:00 AM	9/27/01 9:24 AM	Y

Upon receiving FOCs for the 31 retest orders submitted via EDI, CGE&Y closed AZIWO2069. CGE&Y sees no evidence that this issue is a recurring problem based on the retest effort results.

- During the processing of orders to install new (additional) lines to retail customer locations, CGE&Y observed four occurrences where the customer's existing service was inoperable. For these out-of-service conditions, CGE&Y followed section 2.5.17 of the TSD and instructed the Pseudo-CLEC to open a trouble ticket for the customer. These unplanned trouble reports are reflected in the M&R statistics spreadsheet.²⁰

CGE&Y Post-Test Analysis of Participating CLEC Loop Testing

CGE&Y conducted a review of the cooperative loop testing by using the participating CLEC test results. The participating CLEC performed a MLT test using Harris test equipment on each loop and the pass or fail results were provided to CGE&Y for review.

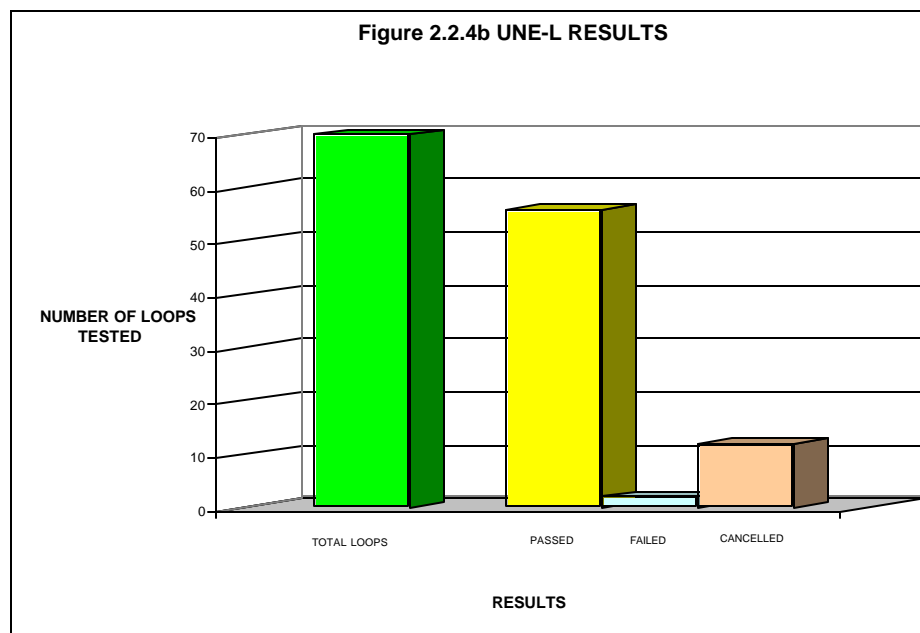
²⁰ CGE&Y Archive File: FT #7 – M&R Statistics Spreadsheet

- UNE-L Testing

All testing for UNE-L test cases was performed by the participating CLEC. The results were provided to CGE&Y for documentation.

Figure 2.2.4b illustrates results of loop testing for new UNE-L loops:

- 56 orders were issued
- 70 Loops were tested
- 56 Loops passed all tests
- 2 Loops failed and trouble tickets were created
- 12 Loops were cancelled for various reasons including, customer (Friendly) error and “no loop facilities available.”



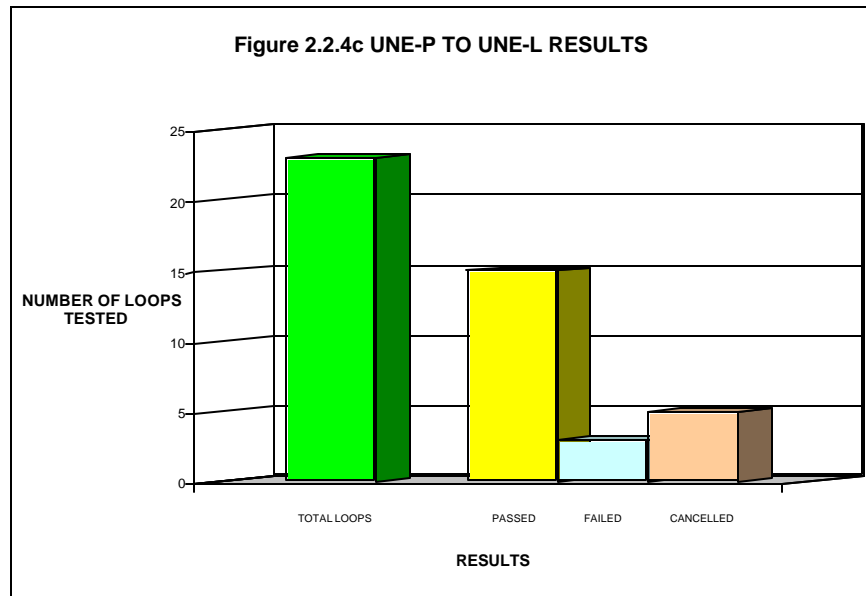
- UNE-P to UNE-L Testing

All testing for conversion of UNE-P to UNE-L test cases was performed by the participating CLEC. The results were provided to CGE&Y for documentation.

Figure 2.2.4c illustrates the loop test results of UNE-P to UNE-L loops:

- 21 orders were issued
- 23 Loops were tested
- 15 Loops passed all tests
- 3 Loops failed and trouble tickets were created

- 5 Loops were cancelled due to various reasons including customer (Friendly) error or “order cancelled by Qwest due to no RMKS (Remarks) relating Disc. new connects on issued LSR.”

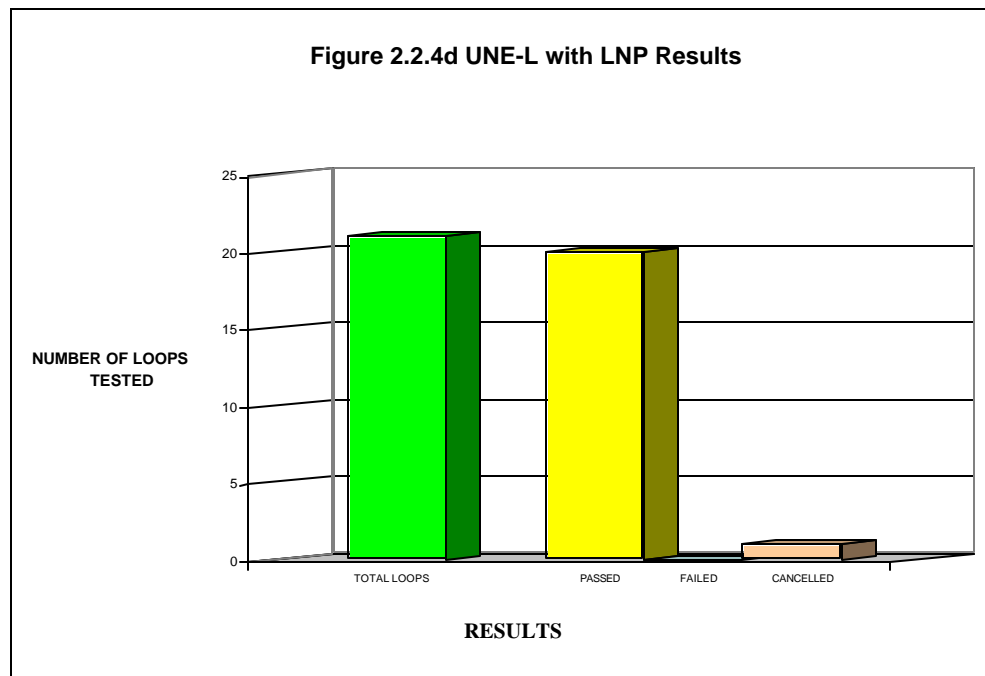


- UNE-L with LNP

The participating CLEC performed activation and testing of all UNE-L with LNP at the time of the CHC. The UNE-L portion of the service was tested according to the practice described above. Participating CLEC testing of the ported number consisted of a test call to the TN being ported after the CHC had been completed. The participating CLEC routed the ported number to an internal intercept message to allow verification through the test call that the porting was complete.

Figure 2.2.4d illustrates the results of loop testing for UNE-L with LNP:

- 13 orders were issued
- 21 Loops were tested
- 20 Loops passed all tests
- 0 Loops failed
- 1 Loop was cancelled due to a Reject received from Qwest stating there were no loop facilities available

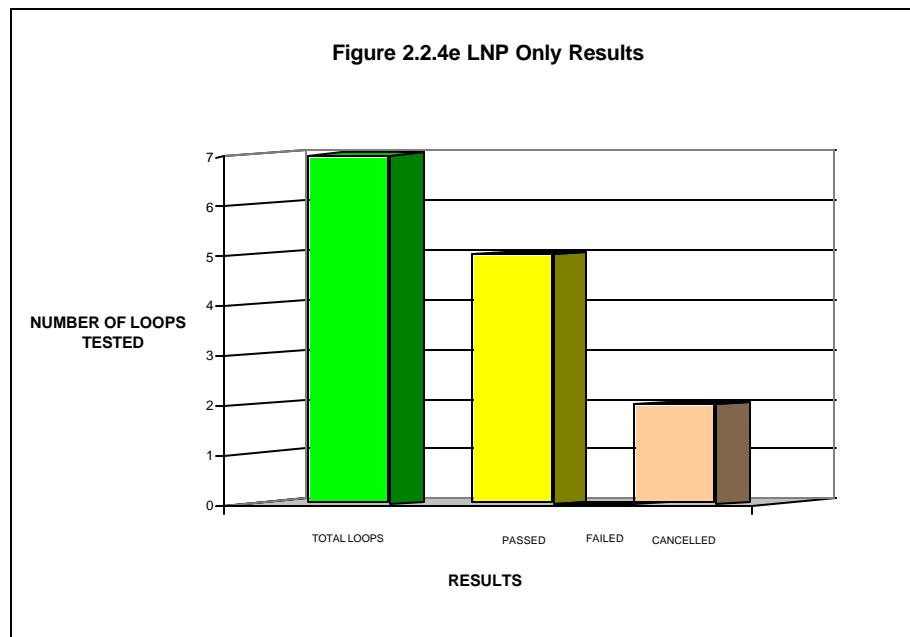


- LNP Only

The participating CLEC performed activation and testing of all LNP Only at the time of the CHC. Participating CLEC testing of the ported number consisted of a test call to the TN being ported after the CHC had been completed. The participating CLEC routed the ported number to an internal intercept message to allow verification through the test call that the porting was complete.

Figure 2.2.4e illustrates the loop test results for LNP Only:

- 5 orders were issued
- 7 Loops were tested
- 5 Loops passed all tests
- 0 Loops failed
- 2 Loops were cancelled due to customer (Friendly) reasons



Prior to exiting the Functionality Test for order entry and provisioning, the following exit criteria were met:

Criterion	Completed
The Pseudo-CLEC has successfully executed all test scripts	✓
The Pseudo-CLEC has provided the required data for each test script to the TA	✓
Statistics were collected that reflect Qwest's timeliness in processing of order, and the generation of Acknowledgments (EDI), Rejects, FOCs, and SOC's for Pseudo-CLEC LSRs and other provisioning transactions. FOC timeliness for ASRs will also be represented in the collected statistics.	✓ ²¹
Statistics were collected that reflect the timeliness and accuracy of Qwest's provisioning of requested services	✓
The TA validated that the orders were provisioned as specified	✓
The TA evaluated the results and concluded that all tests are complete	✓
All requirements designated by the MTP were achieved and there are no additional outstanding requirements	✓
The TA has supplied to Qwest a list of all test accounts that have active test circuits connected to enable Qwest to purge its order, provisioning, and billing systems of these test accounts as specified on the exit checklist (Appendix L [TSD])	✓
All outstanding incidents were closed in accordance with the Testing Incidents Process (Appendix I [TSD])	✓
All performance benchmarks and parity requirements have been achieved in accordance with the Functionality Test Evaluation section of this	✓

²¹ The Pseudo CLEC was not certified to issue ASRs during the Functionality Test.

Criterion	Completed
document (Section 7.3.4 [TSD])	

2.3 Maintenance and Repair

2.3.1 Introduction

The test approach for M&R involved the issuance of both planned (induced) and unplanned trouble tickets. CGE&Y assessed the ability of the Pseudo-CLEC to issue, track and close trouble tickets through Qwest's maintenance interfaces.

According to Section 3.7.6 of the TSD and Section 4.1 of the MTP, M&R is the function whereby CLECs diagnose and troubleshoot customer-reported troubles, report troubles, open trouble tickets, inquire on the status of trouble tickets, and close trouble tickets. CLECs can perform M&R activities electronically, using functionality provided to CLECs by Qwest via one of the available application options, or via a telephone call to Qwest's Account Maintenance Service Center. Section 3.7.6.1 of the TSD and Section 4.2.2 of the MTP limited functionality testing to the two primary electronic interfaces available for CLEC M&R. These are:

- **Customer Electronic Maintenance & Repair (CEMR)** - a proprietary web-based GUI application designed by Qwest
- **Electronic Bonding - Trouble Administration (EB-TA)** – a gateway interface with associated programming and business rules that allows CLECs to design their own GUIs for conducting M&R activities with Qwest.

CGE&Y produced test scripts for UNE-L, UNE-P, DSL, and Resale accounts. A total of 87 test scripts were executed, 63 in CEMR and 24 in EB-TA. These test cases evaluated the functionality of the M&R interfaces. The parity/disparity evaluation was established from commercial CLEC aggregation data and is addressed in Section 2.5 of this document.

2.3.2 Scope

Per Section 3.7.6.1 of the TSD and Section 4.3.5 of the MTP, the M&R Functionality Test examined the following elements using both CEMR and EB-TA:

- A CLEC's ability to initiate an MLT on a CLEC-owned line
- A CLEC's ability to electronically generate and submit trouble tickets on lines that were installed during functionality testing
- Qwest's ability to receive CLEC trouble tickets and electronically close the ticket back to the CLEC once the trouble was corrected

- A CLEC's ability to electronically obtain the status of a trouble ticket that was opened through one of the tested interfaces

In addition the M&R test cases were evaluated for the following performance criteria:

- Qwest's ability to meet the commitment dates quoted during the trouble ticket submission process. This was tested using both CEMR and EB-TA
- The average amount of time it takes for Qwest to restore a line that is out of service. This was tested using both CEMR and EB-TA

The M&R Functionality Test simulated CLEC M&R activity when service affecting and non-service affecting conditions occurred. Trouble tickets were issued against test lines established in the Functionality Test.

2.3.3 Process

To test the effectiveness of Qwest's trouble reporting systems, CGE&Y created test scripts that simulated an end-user calling the CLEC to report a trouble condition. During the testing, but prior to reports of line trouble, CGE&Y made arrangements with a Qwest Single Point of Contact (SPOC) to artificially induce service-affecting trouble conditions onto lines established during the Functionality testing. These trouble inducements were performed during testing, rather than before, to ensure that the troubles were not detected, and subsequently repaired, through routine systems maintenance. Prior to the execution of a particular test script, CGE&Y sent the contact person a list of telephone numbers or circuit IDs and the types of troubles to be induced.

M&R test scripts, containing all of the information necessary for the successful submission of a trouble report through one of the Qwest interfaces, were delivered by CGE&Y to both the Pseudo-CLEC and the EB-TA participating CLEC's repair center following the inducement of the trouble condition.

Approach

Prior to the initiation of any M&R tests, a number of lines established during the Functionality Test were removed from the normal cycling of orders and designated for use in M&R testing. This eliminated the possibility of the lines being disconnected or otherwise altered during the time period in which the EB-TA or CEMR testing occurred. Once the lines were isolated for use in M&R testing, they were assigned unique M&R test-case tracking numbers.

The following general test procedures were followed during the testing:

- To allow Qwest's line records to be fully updated prior to beginning testing, CGE&Y ensured that all lines tested had been in service for at least five business days prior to trouble inducement.

- To assure that the induced troubles would not be repaired through Qwest's routine maintenance, test cases involving the induced troubles were tested within approximately two weeks of the inducement.
- In the event that circumstances prohibited the desired trouble from being induced on a test line (e.g., a feature to be removed was not present on the line), the Qwest SPOC informed CGE&Y of the affected line(s) and provided an explanation of why trouble could not be induced. In these cases, CGE&Y replaced the unusable line(s) with alternate choices.
- Details of M&R test cases were recorded in an M&R statistics spreadsheet.²²

CEMR Trouble Ticket Processing

Approximately 72 percent of the M&R test cases were performed using CEMR because of the constant availability (via the Pseudo-CLEC) as compared with the EB-TA application.

The test cases entered through CEMR were made up of two categories of troubles:

- Planned (induced) – Pre-selected test accounts on which specific reportable troubles were intentionally induced
- Unplanned – Any trouble discovered on a test account during the course of the functionality testing. Examples of these troubles include loss of dial tone on the lines, and problems making long-distance calls from the lines installed during testing

CEMR testing consisted of the following steps:

1. CGE&Y prepared M&R test cases using lines installed during functionality testing.
2. CGE&Y issued test scripts to the Pseudo-CLEC containing all information necessary to create a trouble ticket in CEMR.
3. For selected test cases, the Pseudo-CLEC initiated an MLT through CEMR prior to issuing a trouble report.
4. After receiving the results of the MLT, the Pseudo-CLEC documented them, and submitted the trouble ticket through CEMR.
5. The Pseudo-CLEC generated a CEMR trouble report simulating a legitimate customer trouble, such as no dial tone.
6. Once the information was successfully received in the Loop Maintenance Operations System (LMOS), CEMR returned a confirmation that the ticket had been successfully submitted.
7. The Pseudo-CLEC documented the date and time of the initial report, and the commitment date and time returned by Qwest.

²² CGE&Y Archive File: FT #7 – M&R Statistics Spreadsheet

8. Pseudo-CLEC representatives were listed on the tickets as the contacts for the Qwest technicians who worked the tickets. These representatives fielded all calls from Qwest and answered questions related to the diagnosis and resolution of the tickets. A separate telephone line at the Pseudo-CLEC location was maintained as the contact number for use with M&R testing.
9. Once the CEMR ticket was closed, the Pseudo-CLEC recorded the actual clearance date and time returned by Qwest's systems.
10. The Pseudo-CLEC returned the documentation for the completed trouble ticket to CGE&Y.

EB-TA Trouble Ticket Processing

Prior to the start of testing, Qwest modified the participating CLEC's access to EB-TA to allow them to enter trouble tickets on behalf of the Pseudo-CLEC. CGE&Y and the participating CLEC defined a process for entering and tracking trouble tickets that would not impact the participating CLEC's normal work flows and internal performance metrics reporting. CGE&Y acted as the point of contact to answer calls from Qwest's technicians. The CGE&Y/ participating CLEC trouble ticket process developed for the test was as follows:

1. To create a trouble ticket via EB-TA, a participating CLEC representative created an internal "dummy" ticket called a trouble ticket request (TTR) to provide the gateway to EB-TA. This ticket was exclusively internal to the participating CLEC and was not reported as part of the M&R testing results.
2. The EB-TA ticket to be sent to Qwest was created via the "Create electronic trouble ticket request (ETTR)" tab of the EB-TA system. Information entered on this tab included such things as the TN, address, customer name, trouble code and description, and contact information provided by CGE&Y.
3. The trouble ticket was then transmitted to Qwest by the participating CLEC service representative through the ETTR ticket menu.
4. If the transmission was successful, a message containing the phrase "ticket has been successfully created" was received; if the transmission was unsuccessful, a message was received explaining what information was missing or why the ticket was not created.
5. The service representative printed the information from the TTR ticket that captured all of the data transmitted through the gateway to Qwest and returned to the participating CLEC.
6. Upon successful creation of an EB-TA trouble ticket, the TTR ticket was moved into a participating CLEC test queue and placed on a 30-day customer time clock. This was done to keep participating CLEC representatives not involved in the testing from working the tickets or performing follow-up testing on the tickets. Placing the tickets in the test queue also kept them out of the participating CLEC's internal reporting processes. This step was internal to the participating CLEC and not reported as part of the M&R testing.
7. The EB-TA application generated notes until the TTR was closed.

8. Upon completion of the trouble ticket, Qwest sent notification that the trouble was cleared, followed immediately by another notice stating that the ticket was closed.
9. When the participating CLEC received Qwest's "closed" notice, the TTR ticket information was printed one final time. This printout reflected every transaction that occurred for the ticket, from inception until the date and time Qwest closed the ticket.
10. The participating CLEC then cancelled the TTR, thus eliminating any potential reporting issues created by the TTR. This was only internal to the participating CLEC and did not affect the testing performed by CGE&Y.

Following Section 3.7.6.3 of the TSD, the following criteria were satisfied prior to beginning the Functionality M&R testing:

Criterion	Completed
Test cases using the data from the Test Scenarios in the MTP were developed	✓
A spreadsheet documenting the details associated with each test script and the anticipated results was created.	✓
Information directing the number of test cases and iterations for each test case for each test case was received from the Statistical Team.	✓
A supply of 2-wire loops were created during the Functionality testing and set aside for use in M&R testing.	✓
The test script spreadsheet was populated with end-user names, addresses and trouble conditions needed to generate specific test scripts.	✓
A test schedule was developed based on volume information provided by the Statistical Team.	✓
The test script spreadsheet was updated with execution dates assigned to each test script.	✓
Test accounts successfully provisioned and activated.	✓
The TA, Qwest and the EB-TA participating CLEC coordinated for the use of EB-TA to submit mechanized trouble reports on selected accounts. This included a comparison of the participating CLEC's EB-TA system to Qwest's system specifications to determine what system modifications had to be	✓

Criterion	Completed
made in order to accept trouble tickets for Pseudo-CLEC accounts through the participating CLEC EB-TA interface.	
Necessary modifications were made by Qwest and participating CLEC to allow trouble tickets for Pseudo-CLEC accounts to be transmitted over participating CLEC's EB-TA interface.	✓
A Daily Log Form was created to record observations associated with M&R Testing.	✓
Maintenance & Repair Performance Measurement process evaluations were successfully passed.	✓
Trouble conditions were appropriately simulated and induced.	✓

2.3.4 Results

CGE&Y identified Qwest system, process, and/or training issues that resulted in the generation of IWOs. The summary of IWOs and their resolutions can be found in Appendix B.

The results of the M&R Functionality Test are grouped by electronic access method, i.e., CEMR and EB-TA.

2.3.4.1 CEMR Results

Of the 63 trouble tickets submitted via CEMR, 40 trouble tickets were planned and 23 trouble tickets were unplanned troubles. Of the 23 unplanned troubles, 18 were identified by the customers and 5 were identified during the UNE Loop testing phase. All but 7 were successfully accepted. These 7 test cases were rejected by CEMR for a variety of reasons:

- Qwest's database showed that the Pseudo-CLEC did not own the line. (AZIWO2101) CGE&Y conducted a retest of this IWO to verify that the subject of the IWO had been addressed. The following table shows the accounts utilized to validate the findings during the retest effort of generating trouble tickets in CEMR:

Ticket Number	Order Number	Activity Request	Notes
MNTR101603	C63229997	1) Pull CSR and check for RSID 2) Issue trouble ticket in CEMR 3) View ticket thru	Start time 10/16/01 10:14 AM 1) CSR available and RSID of H08 IWO2101 PASSED 2) CEMR shows RSID ticket issued OK IWO2102

Ticket Number	Order Number	Activity Request	Notes
		maintain trouble report and check if correct 40 cancel ticket	PASSED 3) Maintain Loop screen shows ticket OK. IWO2103 PASSED 4) Ticket cancelled at 10:34 AM
MNTR101604	C63595376	1)pull csr and check for resller id 2) issue troble tkt in cemr 3) view tic ket thru maintain trouble report and check if correct 40 cancel tkt	Start time 10/16/01 9:55 AM 1) CSR available and has Reseller ID of H08 IWO2101 PASSED 2) CEMR shows Reseller ID tkt issued OK IWO2102 PASSED 3) Maintain Loop screen shows ticket OK. IWO2103 PASSED 4)ticket cancelled at 10:10 AM
0061847	C63595312	1)pull csr and check for resller id 2) issue troble tkt in cemr 3) view ticket thru maintain trouble report and check if correct 40 cancel tkt	Start time 10/16/01 10:22AM 1) CSR available still has LIVE status IWO2101 PASSED 2) CEMR shows Reseller ID tkt issued OK IWO2102 PASSED 3) Maintain Loop screen shows ticket OK. IWO2103 PASSED 4)ticket cancelled at 10:40 AM
MNTR1031	C63721550	1)pull csr and check for resller id 2) issue troble tkt in cemr 3) view ticket thru maintain trouble report and check if correct 40 cancel tkt	Start time 10/03/01 9:30 AM 1) CSR available still has LIVE status IWO2101 PASSED 2) CEMR shows Reseller ID tkt issued OK IWO2102 PASSED 3) Maintain Loop screen shows ticket OK. IWO2103 PASSED 4)ticket cancelled at 4:00 PM
MNTR1001	C63678236	1)pull csr and check for resller id 2) issue troble tkt in cemr 3) view ticket thru maintain trouble report and check if correct 40 cancel tkt	Start time 10/02/01 3:48 PM 1) CSR has Reseller Id of H08 IWO2101 PASSED 2) CEMR shows Reseller ID tkt issued OK IWO2102 PASSED 3) Maintain Loop screen shows ticket OK. IWO2103 PASSED 4)ticket cancelled at 3:55 PM
MNTR1034	N63229001	1)pull csr and check for resller id 2) issue troble tkt in cemr 3) view ticket thru maintain trouble report and check if correct 40 cancel tkt	Start time 10/03/01 9:30 AM 1) CSR has Reseller Id of H08 IWO2101 PASSED 2) CEMR shows Reseller ID tkt issued OK IWO2102 PASSED 3) Maintain Loop screen shows ticket OK. IWO2103 PASSED 4)ticket cancelled at 12:24 PM

Ticket Number	Order Number	Activity Request	Notes
MNTR1032	N00714905	1)pull csr and check for resller id 2) issue troble tkt in cemr 3) view ticket thru maintain trouble report and check if correct 40 cancel tkt	Start time 10/03/01 09:05 AM 1) CSR has Reseller Id of H08 IWO2101 PASSED 2) CEMR shows Reseller ID tkt issued OK IWO2102 PASSED 3) Maintain Loop screen shows ticket OK. IWO2103 PASSED 4)ticket cancelled at 10:34 AM

In addition, CGE&Y performed a review of each CSR prior to issuing repair tickets in CEMR. In all cases the accounts either had a status of LIVE or the RSID had already been posted to “H08,” which is the RSID of the Pseudo-CLEC. In none of these cases did CGE&Y experience a **blank** on the RSID field of the CSR.

CGE&Y did further CSR reviews during the investigation performed for IWO2060. In none of the cases reviewed did CGE&Y experience the RSID field to be **blank**.

As a result of this retest CGE&Y closed AZIWO2101.

- Two tickets not present by CEMR on the Maintain Trouble report screen. (AZIWO2102) CGE&Y conducted a retest of this IWO and issued seven trouble tickets which involved the reanalysis of CEMR M&R ticket data and included the following activities:
 - Validation that the CEMR release notes were posted in the Qwest website
 - Verification that software fixes were completed through the execution and results of the retest cases
 - Monitoring the issuance of repair tickets by the Pseudo-CLEC in CEMR. After the repair ticket was issued the Maintain Trouble Report screen was accessed to determine the repair ticket issued did exist in the system and that it could be viewed via Maintain Trouble Report screen. In all cases the Maintain Trouble Report screen showed the existence of the trouble tickets already entered
 - Monitoring the cancellation of the repair ticket by the Pseudo-CLEC in CEMR
 - Verification of the cancellation via the Maintain Trouble Report screen where it was also noted that the tickets cancelled on the previous day still showed the status of “Cancelled” as described in Qwest’s response

CGE&Y has determined that this IWO can be closed based on the results logged during the retest effort.

- One ticket appeared corrupted on the Maintain Trouble report screen. (AZIWO2103) CGE&Y conducted a retest of this IWO and issued seven trouble tickets. CGE&Y determined that in all cases the Maintain Trouble report screen could be accessed and all data appeared to be accurate. The following table provides the results of this retest effort:

Ticket Number	Order Number	Line Type	Notes
MNTR101603	C63229997	1FB	Start time 10/16/01 10:14 AM 1) CSR available and Reseller Id of H08 2) CEMR shows Reseller ID tkt issued OK 3) Maintain Loop screen shows ticket OK. 4)ticket cancelled at 10:34 AM 5) 10/30/01 Maintain Loop screen does not show ticket OK IWO2103 PASSED
MNTR101604	C63595376	1FR	Start time 10/16/01 9:55 AM 1) CSR available and has Reseller ID of H08 2) CEMR shows Reseller ID tkt issued OK 3) Maintain Loop screen shows ticket OK. 4)ticket cancelled at 10:10 AM. 5) 10/30/01 Maintain Loop screen does not show ticket OK IWO2103 PASSED
0061847	C63595312	1FB	Start time 10/16/01 10:22AM 1) CSR available still has LIVE status 2) CEMR shows Reseller ID tkt issued OK 3) Maintain Loop screen shows ticket OK. 4)ticket cancelled at 10:40 AM 5) 10/30/01 Maintain Loop screen does not show ticket OK IWO2103 PASSED
MNTR1031	C63721550	1FB	Start time 10/03/01 9:30 AM 1) CSR available still has LIVE status 2) CEMR shows Reseller ID tkt issued OK 3) Maintain Loop screen shows ticket OK. 4)ticket cancelled at 4:00 PM 5) 10/16/01 Maintain Loop screen does not show ticket OK IWO2103 PASSED
MNTR1001	C63678236	1FR	Start time 10/02/01 3:48 PM 1) CSR has Reseller Id of H08 2) CEMR shows Reseller ID tkt issued OK 3) Maintain Loop screen shows ticket OK. 4)ticket cancelled at 3:55 PM 5) 10/16/01 Maintain Loop screen does not show ticket OK IWO2103 PASSED
MNTR1034	N63229001	UHR	Start time 10/03/01 9:30 AM 1) CSR has Reseller Id of H08 2) CEMR shows Reseller ID tkt issued OK 3) Maintain Loop screen shows ticket OK. 4)ticket cancelled at 12:24 PM 5) 10/16/01 Maintain Loop screen does not show ticket OK IWO2103 PASSED

Ticket Number	Order Number	Line Type	Notes
MNTR1032	N00714905	UHR	Start time 10/03/01 09:05 AM 1) CSR has Reseller Id of H08 2) CEMR shows Reseller ID tkt issued OK 3) Maintain Loop screen shows ticket OK. 4)ticket cancelled at 10:34 AM 5) 10/16/01 Maintain Loop screen does not show ticket OK IWO2103 PASSED

- While attempting to execute the MLT process outlined in Section 10.4 of the CEMR User Guide, CGE&Y observed that the function was unavailable for three test TNs. Qwest updated the system database to allow Pseudo-CLEC access. (AZIWO2098) During the retest effort no problems were encountered while executing the MLT function.

Overall, CGE&Y found that it was able to Create, Modify, Status, and Close a trouble ticket. In addition, CGE&Y was able to successfully execute the MLT tool on the trouble tickets in the test.

MLTs were successfully performed on selected test lines. Additionally, the functionality for electronically requesting the status of an open trouble ticket was successfully tested.

2.3.4.2 EB-TA Results

Twenty-four planned trouble tickets were successfully submitted to Qwest via EB-TA. Of these, all but one met or bettered the commitment date provided by Qwest for clearing the trouble. MLTs were conducted on each line, and line trouble histories were successfully retrieved for selected test cases.

Additionally, the functionality for electronically requesting the status of an open trouble ticket was successfully tested for all trouble tickets.

The following exit criteria, found in Section 3.7.6.6 of the TSD, were met prior to closing the M&R Functionality Test:

Criterion	Completed
Trouble tickets were created via both CEMR and EB-TA	✓
MLTs were successfully conducted on test lines	✓
Trouble ticket statuses via both CEMR and EB-TA were requested and received, and statuses and results	

Criterion	Completed
documented on the Daily Log	✓
Trouble ticket closure notifications, including disposition and cause codes, were received	✓
Emergency notification for network events (e.g. switch failures) were received	✓
All Trouble/Maintenance test scripts were executed and passed	✓
Customer trouble histories were successfully retrieved	✓
Performance benchmarks and parity requirements in accordance with the Functionality portion of the MTP were achieved	✓
All Incident Work Orders were properly addressed and successfully retested with passing results in accordance with the Testing Incidents Process	✓

2.4 Billing

According to Section 4.3.4 of the MTP, the primary focus of the Billing Functionality Test was to validate the ability of Qwest billing systems to receive input in a timely manner and to process the bills accurately. This test provided data to evaluate Qwest's ability to provide accurate, timely, and complete usage data and billing records to CLECs for the services, features, network items, and functions that were ordered and provisioned. This test also verified the correct application of documented recurring, non-recurring, usage-sensitive, and miscellaneous charges.

2.4.1 Introduction

The billing process is the means by which Qwest provides CLECs with wholesale bills, usage data and records for the services, network elements (e.g., loop) and features that are ordered and provisioned. The account changes were passed to the billing system when the order was completed and the order status was changed to SOC. The bills used in this test were produced from the Qwest Customer Record Information System (CRIS). Qwest provided Daily Usage Files (DUFs) containing both Pseudo-CLEC usage and access records. In accordance with Section 3.8 of the TSD, the Billing Functionality Test involved review and analysis of the following:

- Hard copies of the Resale, UNE-P and UNE-L bills

- Electronic copies of the bills (EDI format)
- Electronic copies of the Daily Usage Files (DUF)

For this document the following terms will be used:

- Recurring charges: charges that repeat each period (standard monthly charges)
- Non-recurring charges: charges that should not repeat (e.g., installation, service order charge, set-up charge, prorated amounts)
- DUF: Rated and unrated call detail records, including access records, if applicable, provided by Qwest for calls originating or terminating through its network from or to a CLEC's end user
- Master account: BAN under which all other accounts are billed
- Sub account: individual accounts (end-user level) included in master accounts

2.4.2 Scope

According to Section 3.8 of the TSD and Section 4.3.4 of the MTP, the test determined whether Qwest provides the CLECs with accurate and timely wholesale bills and usage data, including records for services, features, network elements and functions that were ordered and provisioned.

Section 4.3.4 of the MTP and Section 3.8 of the TSD identified the focus for the validation of the bills produced for the test to be verification of the following:

- The bill accurately reflected what was ordered.
- The bills provided accurate recurring, non-recurring, and usage-sensitive charges.
- Rates were applied correctly for each product, service, or element.
- Taxes and surcharges were assessed correctly.
- Discounts and adjustments were performed correctly.
- Prorated amounts were charged accurately according to the disconnect date.
- Disconnects were processed and appeared accurately on the bill.
- DUF were accurate. Data contained in the DUF were compared to Friendlies' call logs and Qwest bills during the Functionality Test.

The MTP specified the creation of both Integrated Access Billing System (IABS) and CRIS bills for validation in this test. Product types billed from IABS are Collocation, Resale Frame Relay, Local Interconnection Service (LIS), Interconnect Port-Local Service, Unbundled Dedicated Interoffice Transport (UDIT), DS1 Message Trunk Ports, and E911 (facility based CLECs only). CGE&Y focused primarily on CRIS bills in the billing portion of the Functionality Test because product types billed through IABS were not tested.

2.4.3 Process

As noted in Section 3.8.3 of the TSD, the approach for the bill validation was:

- Qwest assigned the Pseudo-CLEC at least one monthly bill cycle for issuing bills.
- Qwest provided the bills to the Pseudo-CLEC in two formats, electronic and hard copy. The electronic bills were available for CGE&Y to access within 24 hours of receipt by the Pseudo-CLEC; the hard copy bills were forwarded to CGE&Y within 72 hours of receipt by the Pseudo-CLEC.
- The bills were analyzed to verify that they were correct and accurate. DUF (both access and account) records were provided to the Pseudo-CLEC and CGE&Y was able to view those files.
- DUF in the standard EMI format were sent to the Pseudo-CLEC daily. Upon receipt of the DUF, the Pseudo-CLEC converted the files to an Excel spreadsheet and forwarded them to CGE&Y for analysis.
- The data contained in the DUF was used to verify that the billed usage was accurate and correctly rated on the invoice. The DUF contained information for both Resale and UNE-P accounts. Since the DUF that included access records for the Pseudo-CLEC were not available during the Functionality Test period, CGE&Y conducted a separate review of these records. (See also Section 2.4.5.) Call record types, call record dates, and call duration were validated to the invoices for Resale accounts. Access Records for UNE-P accounts were reported on the bill at the summary level according to the Pseudo-CLEC ICA and could not be validated at the call level.
- The Pseudo-CLEC received bills from Qwest on a monthly basis, by product. These monthly bills have staggered end dates and are referred to as bill cycles. The Pseudo-CLEC was assigned to the following bill cycles:

Resale Bills	25 th of each month
UNE-L bills	25 th of each month
UNE-P bills	19 th of each month

- Upon receipt of the electronic and hard copy bills from Qwest, the Pseudo-CLEC forwarded them to CGE&Y.
- Rated usage included in the bills from the DUF was validated for a minimum of two months between January 2001 and June 2001.
- Friendlies' usage was captured daily at the Qwest switches and reported on the DUF.

End-User Testing

As described in Section 4.6 of the MTP for End Users the following procedure was used. CGE&Y instructed Friendlies to perform, and record, on Call Detail Logs (see Appendix C) certain activities that resulted in the generation of usage records. These logs were sent to CGE&Y for validation that the calls were charged to the account as expected. CGE&Y validated that the calls on the End-User Call Detail Logs were included in the appropriate DUF and invoice.

Billing Inquiry Process

As described in Section 2.2 of the MTP, Qwest provided SMEs to assist CGE&Y during test definition, root cause analysis and other tasks requiring in-depth knowledge of, and experience with, Qwest's OSS and associated methods and procedures.

CGE&Y documented issues that were sent to Qwest in the form of Data Requests (DRs). These requests were sent to the identified Qwest representative via e-mail. The Qwest SMEs researched the requests and reported the findings back to CGE&Y using DR responses. The Qwest response was returned to CGE&Y via e-mail with the answer included and the original request. Any DRs that required Qwest system or process changes and/or improvements, and that were open as of September 1, 2001, resulted in the issuing of IWOs that were referred to Qwest for resolution.

Bill Validation

The validation activities focused on the review of the electronic and hard copy output of the billing system as well as the DUF provided to the Pseudo-CLEC. CGE&Y validated the test results in a controlled manner pursuant to the procedures specified in Section 3.8.3 of the TSD.

When the hard copy of bills was received, CGE&Y

- 1) performed a visual inspection of the bills,
- 2) compared the CSR to the LSR for accounts with order activity,
- 3) validated the SOC date to the bill date,
- 4) validated products, services, and features, and
- 5) validated the current month's bill against the previous month's bills.

The following activities were included in the invoice validation:

- Validation of master account information, e.g., name, address
- Validation of sub-account information, e.g., name and association with correct master account
- Validation of date ranges for billing activity
- Validation of carried forward balances
- Validation of the rates as provided in the ICA for the Pseudo-CLEC
- Validation of Pseudo-CLEC discounted amounts against the rates/discounts identified in the Pseudo-CLEC ICA. For the purposes of billing, the discount was factored in and part of the actual charge displayed on the invoice
- Comparison of charges against the ICA to verify fees and surcharges
- Validation of DUF for:

- ◆ continuous invoice sequence numbers
 - ◆ absence of duplicate records
 - ◆ accuracy of call type
 - ◆ accuracy of the Indicator 4 value designating usage for a Resale or UNE-P line
 - ◆ accuracy of call date and start and end times
 - ◆ accuracy of IXC identification
- Comparison of DUF records to billed usage
 - Validation of usage records to determine that the usage appeared on the correct account, the correct bill month, within the bill period and that the calculations were correct. On UNE-P accounts the usage for all applicable call records from the DUF was totaled by subaccount on the monthly bill. For UNE-P accounts the total usage charge on the invoice was checked against the DUF. The usage for Resale accounts was validated in much the same way as UNE-P except that for the Resale accounts individual call records were on the invoice
 - Validation of End-User Call Detail Log to the DUF for billing
 - Validation of UNE End-User Call Detail Logs to access records on the DUF

The sections that follow describe the elements that were included in the validation of the bills. Observations and findings are detailed in Section 2.4.4 of this report.

Existing Accounts

For the purpose of this test, “existing account” refers to an account with no service order activity during the period. CGE&Y validated these accounts by comparing the current month’s bill against the previous month’s bill to determine that the account balance was correct and that the account information had not changed.

Service Activations

For the purpose of this test, “service activations” refers to new accounts or additions of features or services to existing accounts. CGE&Y validated that

- 1) features on the bill matched those requested on the LSR,
- 2) service orders completed within the billing period,
- 3) prorated amounts were correctly applied, and
- 4) appropriate recurring and non-recurring charges were applied.

Service Disconnects

For the purpose of this test, “service disconnects” refers to the disconnection of products or services, or the total disconnection of an account. Service disconnects were reviewed to verify the following:

- Disconnects were processed
- Service orders completed within the billing period
- Prorated amounts were correctly applied

If a service disconnect occurred in the same billing period as the service activation, CGE&Y validated that the appropriate charges were applied for the activation as well as the correct credit applied for the disconnect. Also, for one month following the disconnect, CGE&Y further verified that the disconnected service, feature, or account did not appear in the bill cycle. Account and balance information was also checked.

Bill Accuracy

The bills produced were from the CRIS billing system which supported the billing for UNE-P, UNE-L, and Resale. CGE&Y reviewed the format of these CRIS bills as part of the bill validation.

For the EDI bills, the electronic version was compared to the hard copy of the bill for the same period. CGE&Y verified that the electronic bill contained the same information as the printed bill, appeared in the same sequence, and that the total dollar amounts were the same.

Validation was performed on the bill balances to ensure that the totals were correct and the balances transferred from one month to the next were correct.

The timeliness of providing the bills to the Pseudo-CLEC was validated per the guidelines in the ICA, that states hard copies of the bills are to be shipped to the Pseudo-CLEC within ten days of generation.

CGE&Y reviewed the DUF at the telephone number level to verify that the calls were included on the correct bill. The Friendly Call Detail Logs were analyzed to determine if the call events were included on the DUF and the appropriate records billed.

Order Validation

CGE&Y verified that the account information and billable items requested on the LSR were correctly reflected and on the appropriate bill. Comparison of the LSR information to the bill provided the method to validate that account changes were accurately reflected on the bill.

The CSR and LSR were reviewed as part of the order validation process. CGE&Y again reviewed the CSR when the bill was produced. For the first bill or any bills with activity, the LSR was validated to both the bill and the CSR. For subsequent months the CSR was only viewed for discrepancies between the previous bills to the current bill. This was performed in order to validate that the Pseudo-CLEC was being correctly billed for items ordered.

For service activations or disconnects, the billable service order items and account information were validated against the bill. This validation consisted of customer information, items ordered, quantity of items ordered, and review of items not on bills but on order to validate that billing was not required. It was possible to have items on a service order that were not billable and therefore not contained on the bill.

Usage Rates

As used in this test, “usage rates” refers to the amount charged for a product or service used. Usage rates were reviewed to verify that rates were applied correctly for each product or service. The rates were determined by the USOC or for specific items if the item was rated as a per use event. The rate of charge was associated for each USOC by Qwest. CGE&Y validated that the rates charged on each bill corresponded to the rates in the Pseudo-CLEC USOC tables and the published local ICA.

Bill Charges

To validate that the Pseudo-CLEC was billed correctly for recurring, non-recurring, and miscellaneous charges the appropriate bill items were reviewed. The USOC was used to determine the charge applied. When changes were made to accounts, CGE&Y validated that, based on the LSR, the appropriate USOC was added to the account.

Based on the USOC, CGE&Y confirmed that the correct rates were applied and the charges were correct for:

- 1) Monthly recurring charges
- 2) Non-recurring charges
- 3) Miscellaneous charges

Discounts and Adjustments

For the purposes of this document, discounts are defined as related to USOC rates, and adjustments relate to the correction of previously billed charges. CGE&Y determined whether discounts and adjustments were applied correctly.

❖ Discounts

The specific discount for each USOC was defined per the local ICA. The specific USOC information provided to CGE&Y by Qwest for the Pseudo-CLEC reflected the amount after discount. There were no actual discounts shown on the bills.

❖ Adjustments

Adjustments were usually made as a result of problems in previous periods for which the Pseudo-CLEC was owed a credit. Although the capability exists for both credit and debit adjustments, only credit adjustments were encountered in this test. CGE&Y determined whether adjustments to bills for errors from a previous month were correctly made.

Taxes and Surcharges

Per Section 3.8.3 of the TSD, the focus of the taxes and surcharges review was to verify that taxes and surcharges are assessed correctly. The Pseudo-CLEC was established as tax exempt with Qwest. Although the Pseudo-CLEC was tax exempt it was possible for the bills to include a specific surcharge applied. CGE&Y determined whether the taxes and/or surcharges assessed on each bill were accurate and appropriate for the tax-exemption.

Prorated Bills

CGE&Y verified that prorated amounts were properly applied to the bill. The SOC date was the indication to the billing system that a billing activity should occur. When order completions caused less than one month's billing, the amounts were prorated. Prorated amounts were detailed on the impacted sub-account and shown on the master account as a single line item, charge or credit.

As provided by Qwest, the following formula was used to calculate the daily rate for pro-rating charges / credits:

$$\text{Tariff rate} / 30 \text{ days per month} * \text{number of active days} = \text{prorated amount}$$

CGE&Y validated the accuracy of prorated amounts to the accounts in the following manner:

- For Service Activations, recurring charges were applied only to the portion of the month following the activation (i.e., from SOC date to the billing cycle date). The non-recurring charges were applied effective on the SOC date.

- For Service Disconnects, credits were applied for the portion of the month following the disconnect (i.e., from the SOC date to the billing cycle date).

Per Section 3.8.2 of the TSD, prior to commencing the Billing Functionality Test, the following entrance criteria had to be met:

Criterion	Completed
The Pseudo-CLEC must complete Qwest's customer questionnaire	✓
Receipt of paper copies of the Pseudo-CLEC bills	✓
Receipt of electronic copy of the Pseudo-CLEC bills in EDI format (to be translated by the Pseudo-CLEC)	✓
Daily usage files sent in electronic format	✓
Universal Service Order Code (USOC) rate tables provided by the Pseudo-CLEC	✓
The Performance measurement evaluation of billing measures has been passed	✓
Receipt of sample Qwest IABS (Integrated Access Billing System) and CRIS (Customer Records Information Systems) bills	✓
Validation of how Pre-subscribed Inter-exchange Carrier Charge (PICC) fees are calculated and applied, along with the exact charge associated with each type of fee	✓
A complete list of all applicable billing business rules, including billing increments, minimum and rounding	✓

2.4.4 Results

CGE&Y identified Qwest system, process, and/or training issues that impacted bill accuracy and documented them in IWOs. A summary of IWOs and their resolutions can be found in Appendix B.

Service Activations

- A Service Activation contained two USOCs with the same description. Qwest investigated and found that the USOCs were valid; however, they

were not valid for the type of service of this account. Qwest reported that this error was caused by a service representative who input the incorrect USOC. Qwest advised that an adjustment would be made to a subsequent bill. CGE&Y has not been able to validate this adjustment or to locate a bill for this account in the file since June. There is no record of a disconnect for this account. (AZIWO1165) Qwest advised that the service order error was brought to the attention of the Center Coach who coached the typist on the issue. An adjustment was applied to the account, but before the adjustment was applied there was an NPA change which impacted the customer account number. When supplied the new account number CGE&Y validated that the correct adjustment was applied to the account. This IWO was closed.

Bill Accuracy

- The CRIS bill format was used for the Resale and UNE bills. If a problem was encountered during the generation of a bill, a different format of the CRIS bill was used. This made it difficult to verify the balance forward totals from one month to the next when the different format was used. This was addressed in AZIWO1151. After discussion with Qwest on the reasons for various formats CGE&Y closed this IWO.
- On a February 2001 UNE-P bill, the Charges and Transferred Balance total did not equal the Total Balance. The problem was discussed with Qwest who advised that the Balance Forward was now split between two totals (Charges and Transferred Balance) and advised CGE&Y on how to validate these totals. CGE&Y was not able to reconcile the difference. An IWO was created and referred to Qwest. (AZIWO1167) A system change was made to the bill presentation of Total Balance to reflect the Balance Forward as Previous Charges and reflect the Charges as New Charges. In addition, during the standard processing activity for the bill noted in the IWO of creating a debit to the subaccounts (to bring balance to \$00.00) there was a system-generated error that caused a double amount to be debited to the Summary Bill. Qwest subsequently corrected this error. This IWO has now been closed.
- The usage on the Resale bills is itemized. On UNE-P accounts, the usage was summarized into a one-line total. This incongruity was discussed with Qwest and their response was that this is accurate as UNE-P is billed by minutes of use. A follow up question was submitted to Qwest to determine the usage dates for each product type for each cycle. (AZIWO1168) After further conversations with Qwest and review of the ICA, CGE&Y closed this IWO based on certain language in the ICA that states that UNE-P usage will be billed in bulk and not itemized as typically seen on a Resale account.
- Five telephone numbers not assigned to the Pseudo-CLEC were included on the DUF. Qwest investigated the problem and found that the five numbers

were incorrectly identified as belonging to the Pseudo-CLEC.

(AZIWO1169) Qwest made a software change in August 2001 to remedy this situation. CGE&Y validated the August and September ODUF files and the referenced telephone numbers were not on the report. This IWO was closed.

- Approximately 100 discrepancies were discovered during the comparison of the DUF to the hard copy bills. These discrepancies included usage on the bills but not on the DUF, usage on the DUF but not on the bill, and calls listed on the Friendly Call Detail Log but not on the DUF and/or on the bill. (AZIWO2120) Qwest has provided a response for the lines in question. The accounts in question have been revalidated by CGE&Y. The Friendly Call Detail Log was compared to the DUF and the DUF was compared to the invoice. The expected records were found on each source and target document and this IWO was closed.
- In two instances accounts were not on the bill within the bill cycle of the SOC date. In the first case, the SOC was January 4, 2001 but the changes to the account did not appear until the February 19, 2001 bill (one month late). In the second instance, the SOC date was February 15, 2001 but changes to the account did not appear until the April 25, 2001 bill (two months late). The charges were back-billed to the SOC date. Qwest determined this to be a human error related to transition of work between centers. (AZIWO1182) Qwest implemented process changes to prevent these types of human errors from reoccurring. CGE&Y observed no further instances of the SOC date not posting to the billing system in the expected timeframe. This IWO is closed.
- CGE&Y observed inconsistencies in the bill displays for USOCs. In most cases the USOC and the description were on the bill, but there were cases where only the USOC description was shown. (AZIWO1161) Qwest made a software enhancement to itemize all USOCs for Wholesale orders in August 2001. The change has been validated by CGE&Y and no reoccurrences of the situation have been found for the September and October 2001 invoices. This IWO is closed.
- Requests were made to Qwest in November 2000 for the USOC list, and the USOC's associated rate. The original information provided in December 2000 contained only the USOC and description. Subsequent requests were made during January, February and March, 2001. At the end of March a table was provided that included the USOC and rates for Resale only. The USOCs and rates were provided for UNE-L in June. CGE&Y was advised by Qwest that the UNE-P rates were similar enough to Resale that CGE&Y should use them for UNE-P and question any differences. CGE&Y issued an IWO concerning the absence of documented rates to validate the bills based on the USOC selected. (AZIWO1181) CGE&Y received a printout of

the Resale USOC information including the rates on March 27. CGE&Y discussed the need for the rates for the UNE-P and UNE-L USOCs with Qwest at a June 2001 meeting. CGE&Y was told to assume that the UNE-P rates were the same as Resale and where CGE&Y found a difference, a DR was to be sent to Qwest to validate the specific rate in question. CGE&Y received the UNE-L rates in June 2001. No discrepancies were found in the USOC table previously provided. When a UNE-P USOC was not included on the table, Qwest was queried and the rate was provided. Subsequently Qwest provided the Commission tariffs to CGE&Y. These rates were validated to the rates and USOCs used on the bill. CGE&Y learned that Qwest's service manager is responsible for providing the Resale USOC table to CLECs. The Resale USOC table does not include the rates. The CLECs are instructed to access the specific tariff or SGAT for rates. All other rates are set out in the rate page of the CLEC's contract. Although IABS and CRIS are different billing systems, they use the same USOCs and rates. This IWO is closed.

- While validating the Payment Due Date, the bill indicated that there was a 22-day payment interval that is not described in the local ICA. The following is the response received from Qwest on September 19, 2001:

“Qwest bills reflect the retail due date which, as is the case for the State of Arizona, is mandated by their State Communications Commission. However, for purposes of collections in our billing offices, the due date is dependent upon individual contracts. The following verbiage is taken directly from our internal documentation, Collections – Live Wholesale: Contract language may appear in the agreement as shown below, but please refer to the individual Interconnection Agreement for language applicable to your customer.

‘Amounts payable under this Resale Section are due and payable within thirty (30) days after the bill date of the Qwest invoice.’”

(AZIWO1189) Qwest supplied the business rules used to apply a late payment. CGE&Y validated that late payments were applied at the appropriate time and that the expected amount on monies was subject to late fees. This IWO is closed.

- While validating the EDI bill against the paper bills for the same period as AZIWO1189, CGE&Y observed that, even though on the EDI bill the sub-accounts information balanced to the paper invoice, the EDI master account totals did not match. The Previous Balance and Total New Charges matched on the EDI bill to the paper bill. However, for the EDI bill the Total Amount Due appeared to have the Transferred Balance added in twice. This was referred to Qwest. (AZIWO1195) Qwest advised that the Transferred Balance was incorrectly being added twice into the EDI total.

Qwest advised CGE&Y that the system fix for this problem was implemented on October 12, 2001. The subsequent EDI and paper invoices were re-checked by CGE&Y and the problem was resolved. This IWO is closed.

Order Validation

- CGE&Y observed that Qwest is not applying the Federal Access Charge consistently. The Federal Access Charge is a mandatory charge for all business and residence customers and is controlled by a USOC based on the class of service. (AZIWO1153, AZIWO1162) For the residence accounts that were provisioned correctly the charge was accurate; however, the business accounts were not provisioned correctly and therefore the charge was incorrect. This activity resulted in the need for an adjustment by Qwest to those business accounts. While validating the adjustments, CGE&Y determined that the adjustments were not applied correctly. Qwest investigated this issue and provided the reasons each USOC was used. Qwest stated they have provided training for the specific order typist, and also provided channel communication to all service order typists regarding the application of this USOC. Qwest also determined that the adjustment error was caused by human error. Training material was issued alerting the representatives to use the correct methodology to calculate these adjustments. CGE&Y validated that the correct adjustment was applied to the next invoice. This IWO is closed.
- Discrepancies were found between services billed and services ordered. Qwest responded that these errors were caused by service representatives while writing internal service orders. Qwest indicated that updates were made to procedures, and retraining was provided. Following are some examples of these errors:
 - Three resale accounts were converted incorrectly. (AZIWO1152) This was caused by human error. Qwest has provided retraining. This IWO is closed.
 - Two accounts were converted to UNE-L in error. (AZIWO1166) This was caused by an error made by the Order Entry Representative. This IWO is closed.
 - CGE&Y observed one account with a double charge for a (NonPublished Service) NPU USOC. (AZIWO1183) This was caused by human error. An adjustment was provided to the customer. CGE&Y validated that the adjustment was correctly applied. This IWO is closed.

- An account was converted with instructions on the LSR to delete specific features previously active on the account, but these features were not deleted. (AZIWO1163) This was caused by human error and this IWO is closed.
- For accounts with the No Solicitation USOC (SEA), there were inconsistencies in the handling. (AZIWO1154) Qwest made a system change in October 2001 to resolve this issue. CGE&Y was advised by Qwest that the issues associated with this issue were the result of human error and that training update messages were issued to advise the order writers on how to handle these type of order items. For conversion accounts Qwest implemented a system enhancement to require that USOCs be entered with the correct RSID/ZCID. CGE&Y revalidated this USOC as part of the retest to validate that both the retraining activity took place and that the system enhancement was working correctly. On the retest orders, the RSID indicator was correctly populated with the Pseudo-CLEC code and the SEA USOC was added correctly when found on the order. However, the retest orders reviewed did not show the SEA USOC entered into the order correctly on a consistent basis and requires ongoing coaching. (See also AZIWO1186) This IWO is closed.
- While validating the bill to an order, CGE&Y encountered two sub-accounts with the same telephone number under one master account number. (AZIWO1157, AZIWO1159) CGE&Y closed AZIWO1157 based on the Qwest explanation for the customer code change for the account. CGE&Y closed AZIWO1159 based on the validation of the adjustment.

Usage Rates

- CGE&Y observed that certain USOCs are used for both recurring and non-recurring charges. (AZIWO1164) CGE&Y accepts Qwest's explanation of service charge application in the IWO response. Qwest also stated that a software change was in development that would allow recurring and non-recurring charges to be applied with a single USOC. Although related, this software change was not a part of AZIWO1164. This IWO is closed.

Bill Charges

- The Monthly Service Charge on Service Activations did not include all the recurring charges for the first bill. Subsequent bills included all the recurring charges. CGE&Y observed that this discrepancy was only associated with the initial Service Activation. (AZIWO1155) Qwest has made a software change to correct this problem. CGE&Y has validated the

software change and that all charge elements are correctly appearing on both first time and subsequent invoices. This IWO is closed.

Discounts and Adjustments

Discounts

- There were instances where the USOC SEA rate did not match the rate applicable to the Pseudo-CLEC. (AZIWO1186) CGE&Y was advised by Qwest that these errors were the result of human error and that training update messages were distributed to advise the order writers on how to handle this type of service. CGE&Y revalidated this USOC as part of the retest. This USOC is still inconsistently provisioned. On a sample of accounts where the LSR indicated SEA, only one in five accounts had actually been provisioned by Qwest with this USOC. CGE&Y believes that Qwest has reasonable controls in place to manage order errors caused by manual handling. (see also IWO1154)

Adjustments

- On the January and February bill cycles, adjustments were made to two accounts. There were no itemized details for the adjustments and therefore no way to validate the adjustments made. (AZIWO1156) Although CGE&Y was unable to perform further validation of the adjustments for these specific accounts, CGE&Y did observe that Qwest properly applied adjustments to other accounts. This IWO is closed.

Taxes and Surcharges

- A Qwest software change was made in January 2001 that caused various taxes to be charged to tax exempt accounts. Since the Pseudo-CLEC is tax exempt, there should be no taxes charged. Qwest made a system change that caused taxes to be applied to tax exempt customers. (AZIWO1158) Qwest has made a subsequent system update to correct this problem. Credit adjustments were made to the impacted accounts for the overcharge of taxes. Qwest provided screen prints of the adjustment to CGE&Y. The screen prints were validated against the invoice data. The adjustments appeared on the invoice as expected. This IWO is closed.

Prorated bills

- CGE&Y could not verify bill prorating when an account was disconnected on Feb 28. CGE&Y was not able to use the calculation provided by Qwest. (AZIWO1160) Qwest advised CGE&Y on the process used to validate proration for Feb 28 invoices. CGE&Y accepts the response provided by Qwest. This IWO is closed.

Usage Validation

- In December 2001, CGE&Y received and reviewed ADUFs (access records) retroactive to May 15, 2001 for the Pseudo-CLEC. Due to the review of these usage records occurring outside of the test period, CGE&Y did not issue IWOs or discuss the following observations with Qwest. CGE&Y's observations are:
 - ◆ CGE&Y received two files; both identified as Invoice Sequence Number 56. Each file contained unique records.
 - ◆ Invoice Sequence Number 82 included all the 1,388 records from Invoice Sequence Number 39, plus 42 additional records.
 - ◆ Invoice Sequence Number 39 contained 1 duplicate record which was also duplicated in Invoice Sequence Number 82.
 - ◆ Only 3 of the expected 12 records from the call logs were found.

2.4.5 Supplemental DUF Evaluation

Scope

CGE&Y conducted a controlled supplemental test of the accuracy and timeliness of the provisioning of Daily Usage File (DUF) records in Arizona. This supplemental effort was to ensure that no DUF issues existed in Arizona after DUF processing updates were made by Qwest that affected their entire operating area. These system updates occurred from September 2001 through December 2001.

CGE&Y's Supplemental DUF Evaluation was conducted from January through April 2002. CGE&Y generated test calls during and after account migrations and then reviewed the DUF records received. As a result of this review, four IWOs were issued (AZIWO1215, AZIWO2127, AZIWO2128 and AZIWO2129). CGE&Y received Qwest's responses to the IWOs, indicating that system fixes had been implemented on February 7, 18 and March 28; and a process change had been implemented on March 22, 2002. CGE&Y retested and closed AZIWO2127, AZIWO2128, AZIWO1215 and AZIWO2129.

Process

Order and Call Generation

CGE&Y generated order scripts for the initial test and retest. The order scripts were used by the Pseudo-CLEC to issue LSRs that migrated 12 CGE&Y and 3 HP local retail employee lines to wholesale HPC accounts.²³ For the retest, only the 12 CGE&Y accounts were used. CGE&Y and HP accounts were selected to closely control adherence to the test call scripts.

The test calls for the initial test were conducted during the period of January 22 through January 31, 2002.²³ The retest period was March 13, 2002 through April 2, 2002.²⁴ The types of calls made to generate both access and usage records included:

- InterLATA
- IntraLATA toll
- 900/976 Calls
- 8xx (WATS)
- Local Directory Assistance
- Local Directory Assistance Connect
- Toll Directory Assistance
- Toll Credit Request

²³ Test Call Logs for the initial test are located on CGE&Y Archive CD: Supplemental DUF Evaluation, Supplemental DUF Evaluation Update.

²⁴ Test Call Logs for the Retest are located on CGE&Y Archive CD: Supplemental DUF Evaluation Retest.

- Usage sensitive CLASS features
- Terminating InterLATA
- Terminating IntraLATA toll
- Local Measured Service
- Verify InterLATA Carrier
- Verify IntraLATA Carrier

Pseudo-CLEC DUF Record Processing

As discussed in Section 2.4.3 above, the Pseudo-CLEC received DUFs from Qwest for test accounts. The Pseudo-CLEC process for receiving DUFs was implemented in June 2000 and was based on the Pseudo-CLEC's understanding that "U S WEST (Qwest) uses the EMI standard for the Daily Usage File." At that time, Qwest had implemented EMI Version 17, dated April 2000. The Pseudo-CLEC implemented the process of receiving the DUFs via NDM on a dedicated T-1 connection with Qwest. For this implementation, the Pseudo-CLEC incorporated Qwest's variations to the EMI standards for Version 17 that Qwest detailed in their document, "Usage Exception Matrix.doc." This document was provided to the Pseudo-CLEC via the Account Management process.

Upon receipt of each DUF, the Pseudo-CLEC performed the following standard types of validations on the file:

1. File edits
2. Header edits
3. Trailer edits
4. Duplicate Check edits
5. Detail edits
6. Timeliness edits

In August 2001, Qwest upgraded their DUF process to EMI Version 18, dated July 2001. With Qwest's implementation of EMI Version 18, ADUF (access) records, along with ODUF records were received by the Pseudo-CLEC. Documentation of the DUF process is provided at the Qwest website (<http://www.qwest.com/wholesale/clecs/duf.html>).

Under EMI Version 18, the Pseudo-CLEC performed basic validation of pack header and trailer records according to EMI standards for both the ADUF and ODUF records before converting to a spreadsheet for CGE&Y analysis. These spreadsheets for the initial test and the retest are contained in the CGE&Y document, Combined Call Logs and DUF File.xls.²⁵

Evaluation Process

²⁵ CGE&Y Archive CDs: Supplemental DUF Evaluation, Supplemental DUF Evaluation Update, Supplemental DUF Evaluation Retest.

CGE&Y's evaluation of the DUF records for the initial test included DUFs received from January 25, 2002 through February 16, 2002. This evaluation analyzed only planned test calls and did not include any casual calls that the caller may have made. During the retest, the DUFs reviewed were received from March 13, 2002 through April 5, 2002 and the evaluation analyzed all originating and terminating calls for the test accounts as logged by the test caller.

During the audit of DUF records, CGE&Y also:

1. Verified the accuracy of call types in the Record ID field.
2. Verified the date and time of the beginning and the end of the calls.
3. Verified the jurisdiction (Settlement Code and LATA Indicator) where applicable.
4. Verified the applicable carrier identification code (CIC) on access records.
5. Verified the Indicator 4 field value was populated correctly according to the account type (Resale or UNE-P).
6. Verified the direction of the call in the Originating / Terminating field.
7. Verified that no access usage is reported for Resale accounts.
8. Verified that the execution of usage sensitive class services generated DUF records.
9. Verified that the correct Operating Company Name (OCN) is populated on access records and is in the correct field on UNE-P accounts.
10. Identified missing DUF records.
11. Verified that all DUF records in the retest call period were generated by the test accounts.
12. Verified that DUF files had unique invoice sequence numbers.

Results

Test results showing DUF records received by call type for the initial test and the retests are shown in Table 2.4.5a below. Confidential call logs and the associated DUFs, LSRs and CSRs are available separately.²⁶

²⁶ CGE&Y Archive CDs: Supplemental DUF Evaluation, Supplemental DUF Evaluation Update, Supplemental DUF Evaluation Retest.

Table 2.4.5a - DUF Records Received by Call Type

Test Call Type	Initial Test					Retest 1					Retest 2				
	ODUF Expect	ODUF Found	ADUF Expect	ADUF Found		ODUF Expect	ODUF Found	ADUF Expect	ADUF Found		ODUF Expect	ODUF Found	ADUF Expect	ADUF Found	
In-State Interlata Long Distance Call Completion	0	0	33	18	55%	0	0	42	42	100%	0	0	0	0	0%
In-State Intralata Long Distance Call Completion	84	77	45	14	71%	45	45	28	28	100%	0	0	0	0	0%
Terminating Interlata Call	0	0	23	4	17%	0	0	73	73	100%	0	0	0	0	0%
Terminating Intralata Call * Note 3	0	0	32	0	0%	0	0	52	17	33%	0	0	15	11	73%
Local Directory Assistance 1-411	87	86	0	0	99%	54	54	0	0	100%	0	0	0	0	0%
Toll Directory Assistance	0	0	32	17	53%	0	0	30	30	100%	0	0	0	0	0%
800 WATS Number	0	0	51	38	75%	0	0	31	31	100%	0	0	0	0	0%
900 Blocking	0	0	16	3	19%	0	0	31	31	100%	0	0	0	0	0%
Verify Long Distance Carrier	0	0	47	20	43%	0	0	27	27	100%	0	0	0	0	0%
Verify Intralata Long Distance Carrier	0	0	0	0	0%	0	0	0	0	0%	0	0	0	0	0%
Directory Assistance Connection (Call completion)	0	0	43	28	65%	6	6	5	5	100%	0	0	0	0	0%
Usage Sensitive Call/Last Call Return * Note 1	0	0	0	0	0%	50	50	0	0	100%	0	0	0	0	0%
Usage Sensitive Call/Last Continuous Redial * Note 1	0	0	0	0	0%	50	50	0	0	100%	0	0	0	0	0%
Toll Credit Request * Note 2	0	0	0	0	0%	11	11	0	0	100%	0	0	0	0	0%
Local Call * Note 2 & 3	0	0	0	0	0%	72	0	0	0	0%	19	19	0	0	100%
Total	171	163	322	142	62%	288	216	319	284	82%	19	19	15	11	88%
						ODUF Success		95%			ODUF Success		75%		
						ADUF Success		44%			ADUF Success		89%		
											ODUF Success		100%		
											ADUF Success		73%		

* Note 1 – Retest 1 only. For Initial Test, accounts had monthly subscription.

* Note 2 – Retest 1 only. Not performed on Initial Test.

* Note 3 - Retest 2 - Two test call types only.

Test results for the initial test for each test account are shown in Table 2.4.5b and Table 2.4.5c below.

Table 2.4.5b - Initial Test Results by Test Account

Test Number	Converted To	LSR Issued Date	SOC Date	L&C Report Date	Test Calls		Dates of DUF Files When Usage First & Last Received *Note 1				Record Date of First Usage Received on DUF Files	
					Begin	End	First ODUF	Last ODUF	First ADUF	Last ADUF	Expected	Actual
TN 01	Resale	1/22/02	1/24/02	1/25/02	1/22/02	1/30/02	1/30/02	2/1/02	N/A	N/A	1/25/02	1/25/02
TN 02	Resale	1/22/02	1/25/02	1/26/02	1/22/02	1/30/02	2/5/02	2/5/02	N/A	N/A	1/26/02	1/28/02
TN 03	Resale	1/22/02	1/25/02	1/26/02	1/22/02	1/30/02	2/5/02	2/5/02	N/A	N/A	1/26/02	1/26/02
TN 04	Resale	1/22/02	1/25/02	1/26/02	1/22/02	1/31/02	2/5/02	2/5/02	N/A	N/A	1/26/02	1/27/02
TN 05	Resale	1/22/02	1/25/02	1/26/02	1/28/02	1/30/02	2/5/02	2/5/02	N/A	N/A	1/26/02	1/28/02
TN 06	Resale	1/22/02	1/25/02	1/26/02	1/22/02	1/29/02	2/5/02	2/5/02	N/A	N/A	1/26/02	1/27/02
TN 07	Resale	1/22/02	1/25/02	1/26/02	1/22/02	1/31/02	2/5/02	2/5/02	N/A	N/A	1/26/02	1/28/02
TN 08	UNE	1/22/02	1/25/02	1/26/02	1/23/02	1/30/02	2/7/02	2/11/02	2/8/02	2/11/02	1/26/02	1/26/02
TN 09	UNE	1/22/02	1/25/02	1/26/02	1/23/02	1/29/02	2/6/02	2/6/02	2/6/02	2/6/02	1/26/02	1/28/02
TN 10	UNE	1/22/02	1/25/02	1/26/02	1/29/02	1/31/02	2/7/02	2/11/02	2/8/02	2/11/02	1/26/02	1/28/02
TN 11	UNE	1/22/02	1/25/02	1/26/02	1/22/02	1/31/02	2/7/02	2/11/02	2/8/02	2/11/02	1/26/02	1/27/02
TN 12	UNE	1/22/02	1/25/02	1/26/02	1/23/02	1/30/02	2/7/02	2/11/02	2/8/02	2/11/02	1/26/02	1/28/02
TN 13	UNE	1/22/02	1/25/02	1/26/02	1/23/02	1/31/02	2/6/02	2/6/02	2/6/02	2/6/02	1/26/02	1/28/02
TN 14	UNE	1/22/02	1/25/02	1/26/02	1/25/02	1/30/02	2/7/02	2/11/02	2/8/02	2/11/02	1/26/02	1/28/02
TN 15	UNE	1/22/02	1/25/02	1/26/02	1/23/02	1/30/02	2/12/02	2/14/02	2/13/02	2/14/02	1/26/02	1/27/02

*Note 1 - Per Data Request 264 response, first usage files delayed 4 days due to monthly bill pull and 3 days due to standard CRIS pending order hold period.

Table 2.4.5c - Initial Test Results by Test Account

Test Number	Converted To	Test Call Analysis						% of Success
		Calls Made	No DUF Expected	ODUF Expected	ODUF Found	ADUF Expected	ADUF Found	
TN 01	Resale	134	104	30	30	0	0	100%
TN 02	Resale	80	69	11	11	0	0	100%
TN 03	Resale	57	53	4	4	0	0	100%
TN 04	Resale	127	116	11	11	0	0	100%
TN 05	Resale	56	47	9	9	0	0	100%
TN 06	Resale	73	65	8	8	0	0	100%
TN 07	Resale	108	97	11	11	0	0	100%
TN 08	UNE	48	21	6	6	24	14	67%
TN 09	UNE	106	71	8	8	31	8	41%
TN 10	UNE	49	10	8	8	35	0	19%
TN 11	UNE	87	47	9	9	35	15	55%
TN 12	UNE	63	21	12	10	37	9	39%
TN 13	UNE	97	36	13	13	54	14	40%
TN 14	UNE	63	23	10	5	35	12	38%
TN 15	UNE	149	68	21	20	71	70	98%

Totals:	1297	848	171	163	322	142	62%
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ODUF Success	95%
ADUF Success	44%

Resale Success	100%
UNE Success	54%

Initial Test Findings:

- CGE&Y opened AZIWO2127 because 92 ADUF records were not received as identified in Qwest's response to Data Request 264.²⁷ The system fix for this IWO was retested.
- CGE&Y opened AZIWO2128 because 41 WATS DUF records were not received as identified in Qwest's response to Data Request 264.²⁷ The system fix for this IWO was retested.
- CGE&Y expected to receive 171 ODUF records and 322 ADUF records from the test calls. The overall success rate for DUF records received was 62%; 95% for ODUF records and 44% for ADUF records during this test period. CGE&Y opened AZIWO2129 because the volume of expected DUF records received was lower than anticipated. This IWO was re-evaluated in the retest.
- No DUF records were found for calls placed on or prior to the SOC when the account was still retail, as expected.
- All DUF files had unique invoice sequence numbers, as expected.
- Qwest immediately applied a system fix when the issue with an order posting to CRIS on a Friday concurrent with held access usage was identified (AZIWO2127).
- Qwest immediately applied a system fix when the issue with dropped WATS records was identified (AZIWO2128).
- For one test account, 120 usage records were delayed 22 days after the conversion date due to post order completion error correction.
- Inaccurate Indicator 4 – For 24 records the Indicator 4 value was 6 and should have been 7. CGE&Y opened AZIWO1215 for this error. Per Qwest's response, this error was associated with the issue that caused AZIWO2127. AZIWO1215 was retested.
- All DUF records had accurate start and end times compared to the test call logs.
- During the initial test it was found that 73% of the DUF records received had the correct Indicator 4 value.

²⁷ CGE&Y Archive CD: Supplemental DUF Evaluation.

Test results for Retest 1 for each test account are shown in Table 2.4.5d and Table 2.4.5e below.

Table 2.4.5d – Retest 1 Results by Test Account

Test Number *Note 1	Converted To	LSR Issued Date	SOC Date	L&C Report Date	Post To Be Billed Date	Test Calls		Dates of DUF Files When Usage First & Last Received				Detail Usage First Received on DUF Files	
						Begin	End	First ODUF	Last ODUF	First ADUF	Last ADUF	Expected	Actual
TN 08	Resale	3/8/02	3/13/02	3/14/02	3/14/02	3/13/02	3/17/02	3/20/02	3/20/02	N/A	N/A	3/14/02	3/14/02
TN 10	Resale	3/8/02	3/13/02	3/14/02	3/14/02	3/13/02	3/17/02	3/20/02	3/20/02	N/A	N/A	3/14/02	3/14/02
TN 05	Resale	3/8/02	3/13/02	3/14/02	3/15/02	3/13/02	3/17/02	3/21/02	3/21/02	N/A	N/A	3/14/02	3/14/02
TN 06	Resale	3/8/02	3/13/02	3/14/02	3/14/02	3/13/02	3/17/02	3/20/02	3/20/02	N/A	N/A	3/14/02	3/14/02
TN 13	Resale	3/8/02	3/13/02	3/14/02	3/14/02	3/13/02	3/17/02	3/20/02	3/20/02	N/A	N/A	3/14/02	3/14/02
TN 03	UNE	3/8/02	3/13/02	3/14/02	3/15/02	3/13/02	3/17/02	3/21/02	3/21/02	3/21/02	3/21/02	3/14/02	3/14/02
TN 04	UNE	3/8/02	3/13/02	3/14/02	3/15/02	3/13/02	3/17/02	3/21/02	3/21/02	3/21/02	3/21/02	3/14/02	3/14/02
TN 09	UNE	3/8/02	3/13/02	3/14/02	3/15/02	3/13/02	3/17/02	3/21/02	3/21/02	3/26/02	3/26/02	3/14/02	3/14/02
TN 11	UNE	3/8/02	3/13/02	3/14/02	3/15/02	3/13/02	3/17/02	3/21/02	3/21/02	3/26/02	3/26/02	3/14/02	3/14/02
TN 12	UNE	3/8/02	3/13/02	3/14/02	3/15/02	3/13/02	3/17/02	3/21/02	3/21/02	3/21/02	3/21/02	3/14/02	3/14/02
TN 16	UNE	3/8/02	3/13/02	3/14/02	3/15/02	3/13/02	3/17/02	3/21/02	3/21/02	3/21/02	3/21/02	3/14/02	3/14/02
TN 07	UNE	3/8/02	3/13/02	3/14/02	3/18/02	3/13/02	3/17/02	3/22/02	3/22/02	3/22/02	3/22/02	3/14/02	3/14/02

*Note 1 - Test Number reference maintained from Initial Test.

Table 2.4.5e – Retest 1 Results by Test Account

Test Number *Note 1	Converted To	Test Call Analysis						% of Success
		Calls Made	No DUF Expected	ODUF Expected	ODUF Found	ADUF Expected	ADUF Found	
TN 08	Resale	25	11	14	14	0	0	100%
TN 10	Resale	20	2	18	18	0	0	100%
TN 05	Resale	19	2	17	17	0	0	100%
TN 06	Resale	20	3	17	17	0	0	100%
TN 13	Resale	19	2	17	17	0	0	100%
TN 03	UNE	71	5	25	17	45	40	81%
TN 04	UNE	79	4	28	19	51	46	82%
TN 09	UNE	51	1	29	20	26	24	80%
TN 11	UNE	78	4	25	17	53	48	83%
TN 12	UNE	73	4	29	20	45	38	78%
TN 16	UNE	100	8	44	23	54	49	73%
TN 07	UNE	71	5	25	17	45	39	80%
Totals:		626	51	288	216	319	284	82%

ODUF Success	75%
ADUF Success	89%
Resale Success	100%
UNE Success	80%

*Note 1 - Test Number reference maintained from Initial Test.

Test results for Retest 2 for each test account are shown in Table 2.4.5f below. For Retest 2, only test calls were made. No account migrations were required.

Table 2.4.5f – Retest 2 Results by Test Account

Test Number	Converted To	Test Calls		Dates of DUF Files When Usage First & Last Received				Detail Usage First Received on DUF Files	
		Begin	End	First ODUF	Last ODUF	First ADUF	Last ADUF	Expected	Actual
TN 03	UNE	4/2/02	4/2/02	4/3/02	4/4/02	4/3/02	4/3/02	4/3/02	4/3/02
TN 04	UNE	4/2/02	4/2/02	4/3/02	4/3/02	4/3/02	4/3/02	4/3/02	4/3/02
TN 09	UNE	4/2/02	4/2/02	4/3/02	4/3/02	4/3/02	4/3/02	4/3/02	4/3/02
TN 11	UNE	4/2/02	4/2/02	4/3/02	4/3/02	4/3/02	4/3/02	4/3/02	4/3/02
TN 12	UNE	4/2/02	4/2/02	4/3/02	4/3/02	4/3/02	4/3/02	4/3/02	4/3/02
TN 16	UNE	4/2/02	4/2/02	4/3/02	4/3/02	4/3/02	4/3/02	4/3/02	4/3/02
TN 07	UNE	4/2/02	4/2/02	4/3/02	4/3/02	4/3/02	4/3/02	4/3/02	4/3/02

*Note 1 - Test Number reference maintained from Initial Test.

		Test Call Analysis						% of Success
		Calls Made	No DUF Expected	ODUF Expected	ODUF Found	ADUF Expected	ADUF Found	
TN 03	UNE	8	0	5	5	3	3	100%
TN 04	UNE	4	0	2	2	2	2	100%
TN 09	UNE	6	0	4	4	2	1	83%
TN 11	UNE	4	0	2	2	2	1	75%
TN 12	UNE	4	0	2	2	2	1	75%
TN 16	UNE	4	0	2	2	2	2	100%
TN 07	UNE	4	0	2	2	2	1	75%
Totals:		30	0	17	17	13	10	90%

ODUF Success	100%
ADUF Success	77%

Resale Success	N/A
UNE Success	90%

Retest Findings:

- CGE&Y retested AZIWO2127 and did not receive 35 ADUF records for calls terminating to a UNE-P account from an IntraLATA Qwest payphone. Because these same records were identified in AZIWO2129 this issue was included in the results for AZIWO2129, and AZIWO2127 was closed.
- CGE&Y retested AZIWO2128 for WATS DUF records not received. All 31 WATS call records expected were received. AZIWO2128 was closed.
- CGE&Y retested AZIWO2129 because a lower than expected volume of DUF records were received. The overall success rate for DUF records received was 82%; 75% for ODUF records and 89% for ADUF records during the retest. In confidential DRs 276 and 277 Qwest reported system fixes to address the DUF records that were not received. CGE&Y's evaluation of Qwest system fixes during Retest 2 consisted of issuing test

calls on UNE-P lines. CGE&Y received all ODUF records as expected and all ADUF records for which Qwest had received an access record.

- No DUF records were received for calls placed on or prior to the SOC when the account was still retail, as expected.
- All DUF files had unique invoice sequence numbers, as expected.
- CGE&Y retested AZIWO1215 because an inaccurate Indicator 4 value was received. All 37 ODUF records for two UNE-P test accounts were received six days after posting to billing with an incorrect value of 6 (Resale). ADUF records were received for these same two accounts five days after the ODUF records with a correct Indicator 4 value of 7 (UNE-P). CGE&Y evaluation of the March 22, 2002 process change during Retest 2 consisted of reviewing Qwest production data for 1127 DUF records associated with 17 unique telephone numbers installed as Resale and UNE-P on 4-1-02 and 4-2-02. All DUF records reflected the correct Indicator 4 value showing that the process change implemented worked as expected.
- All DUF records received for the test accounts during the test period were validated as generated by the test account.
- DUF records had accurate start and end times compared to the call logs.
- During Retest 1 it was found that 93% of the DUF records received had the correct Indicator 4 value. In the evaluation of Retest 2 records 100% of the DUF records had the correct Indicator 4 value.

Exit Criteria

Per Section 3.8.4 of the TSD, prior to exiting the Billing Functionality Test, the following criteria were met:

Criterion	Completed
The capture and documentation of billing information provided on the wholesale bills to the Pseudo-CLEC by the TA	✓
The evaluation of the paper and electronic copies of the monthly bills for a minimum two-month time period and the electronic copies of the daily usage file on a weekly basis by the TA	✓
The TA's documentation and analysis of the information provided by the Pseudo-CLEC and /or CLEC's billing data	✓
Closure of all outstanding issues logged in the TA Master Issues Log (see Appendix J for the Master Issues Log Process)	✓
Closure of all issues deemed by the TAG to require Qwest system corrections as documented on Incident Work Orders and processed in accordance with the Testing Incidents Process (Appendix I [TSD])	✓
The results of the bill validation are documented in the final report to the ACC	✓

Conclusions for Functionality Billing Test

CGE&Y concludes the following concerning the Qwest OSS, specifically related to the test of the billing system. The billing system always generated a bill for all billable items that were included on the Qwest CSR. The order process between provisioning and billing works as expected. Order items that appeared to be provisioned to the account and customer billable were always on the invoice. There were no major issues related to the Qwest billing system for the Pseudo-CLEC.

CGE&Y observed that when billing issues were referred to Qwest the problem was corrected by system updates and adjustments given as illustrated by AZIWO1158. CGE&Y also notes that system enhancements were made to the Qwest billing system as a result of the Functionality Test as illustrated by

AZIWO1154. Qwest was able to identify other improvements that were incorporated into their internal processes.

CGE&Y concludes the following regarding the generation of DUF records. Usage records were generated to the new co-provider beginning with usage occurring the day after the conversion date, as expected. The accuracy of the Indicator 4 value improved from 73% in the initial test to 93% in Retest 1 and to 100% in Retest 2. Qwest implemented system fixes to resolve processing errors that prevented switched access call records from being reported on the ADUFs. After Retest 2, CGE&Y received 100% of ADUF records for which Qwest had received an access record from the Inter-Exchange carrier and 100% of expected ODUF records.

2.5 Performance Measurement Test

2.5.1 Introduction

The statistical evaluation of performance measurements calculated from data gathered during the Functionality Test was designed to provide the ACC with a statistically valid assessment of Qwest's performance in providing service to the CLECs based on established performance measures. The Arizona Service PID 6.3 defines those standards set by the TAG that Qwest must meet in order to comply with §271 of the Act.

Performance measures fall into three broad categories: parity, benchmark, and report only. Parity measures compare the performance Qwest provides its competitors to that which Qwest provides to itself, its retail customers, or its affiliates. Therefore, parity measures require that there be an analogous retail service to the wholesale service being evaluated. The retail analog provides the standard for the measurement. Benchmarks define a level of performance for service provided to a CLEC for which there is not an equivalent product or service offered within Qwest. Benchmarks are negotiated between the parties in Arizona and are set at a level intended to allow an efficient competitor a meaningful opportunity to compete with Qwest in the provisioning of telecommunications service. This agreed to benchmark serves as the standard for evaluating performance. The report-only category is provided for those measures determined to be of interest but are used for diagnostic purposes, often because they back-up or support other performance measures. The report-only category includes measures for which there is not yet sufficient information or the need to set a benchmark. There is no established standard for this type of measure.

During the Functionality Test, several test scenarios were developed to produce specific performance data for use in calculating the performance measures as defined by the PID and specified in Appendix C of the MTP. The calculations will be produced as defined in Section 9 of the TSD. (Statistical Approach)

2.5.2 Scope

Per Section 8.5.3 of the MTP and Section 7.3.4 of the TSD, the Performance Measurement Evaluation of Functionality Test data encompassed the following activities:

- Collection of Qwest performance measurement raw data (ad hoc data) for the Pseudo-CLEC, Qwest, and aggregate CLECs for the time frame covered by the Functionality Test (December 21, 2000 through July 31, 2001)
- Development of Functionality Test data captured by the Pseudo-CLEC

- Validation that data observed and captured by the Pseudo-CLEC is accurately reflected in Qwest raw data files
- Independent calculation of all measurements indicated in Appendix C of the MTP for the Pseudo-CLEC, aggregate CLECs and Qwest retail using Qwest raw data according to the statistical approach outlined in Section 9 of the TSD
- Declaration of parity/disparity or pass/fail for all performance measurement results where sufficient data are available
- Reconciliation between the data captured by the Pseudo-CLEC via the gateway notifiers and the data contained within the Qwest adhoc files to ensure that all records (e.g., LSRs, trouble tickets) submitted by the Pseudo-CLEC are contained within the Qwest adhoc data and that the Qwest data doesn't erroneously contain records not submitted by the Pseudo-CLEC. In addition, data elements were reconciled between the Qwest adhoc and the Pseudo-CLEC captured data.
- Independent calculation of Functionality Test Measurements (FTMs) indicated in Appendix C of the MTP for the Pseudo-CLEC according to the statistical approach outlined in Section 9 of the TSD. For each PID measure listed in Appendix C of the MTP, an aggregated FTM was defined where the Pseudo-CLEC was able to capture all the data elements necessary to calculate results independent of Qwest adhoc data. This process included defining each FTM, performing an independent calculation with Pseudo-CLEC captured data and using the same records contained within the Qwest adhoc, performing an independent calculation for the same measurements. The results obtained with the Pseudo-CLEC captured data will be compared with the results obtained using the Qwest adhoc data. This is to ensure that the data used by Qwest to calculate monthly performance measurement results are accurate and reflect performance experienced by the CLEC.
- Problems or issues identified during the statistical evaluation of the Pseudo-CLEC functionality data will be entered on IWOs and forwarded to the TAG for Qwest to investigate, respond and take corrective action if necessary

2.5.3 Process

To test the performance of Qwest's OSS and provisioning services, CGE&Y statistically analyzed Qwest adhoc data. To validate these results, CGE&Y reconciled Pseudo-CLEC captured Functionality Test data with Qwest adhoc data by making a side by side comparison for data elements captured by the Pseudo-CLEC through the gateway notifiers (See Appendix L, Data Reconciliation Report). In addition, other key data elements were reconciled by performing independent calculations for FTMs using both Pseudo-CLEC

captured and Qwest adhoc data and comparing the results (See Functionality Test Results Comparison Report (FTRC Report)). Once the source data was verified for content and accuracy and adjusted to account for any material discrepancies discovered in the data reconciliation, calculations for processes used in the performance measure audit were applied to the Qwest adhoc data for the results.

Qwest Adhoc Data Processing

As described above, CGE&Y evaluated Qwest's provisioning services based on established performance measures detailed in Appendix C of the MTP. These performance measures fall into three broad categories: parity measures, benchmark measures, and diagnostic measures. Furthermore, these measures are identified as a binomial (rate of success) or interval measure.

Parity measures were evaluated based on statistical comparison of Pseudo-CLEC and aggregate CLEC data with Qwest retail data using a one-tailed modified Z-test. In the case of interval measures, log transformations were used to dampen the effect of extraordinary cases that skew the distribution and inflate the standard deviation. For binomial measures, the arcsin-square-root transformation was used to achieve constant variance over the range of possible rates.

Benchmark measures are typically those measures with no retail analog. Standards were established as critical values to the test. Compliance for benchmark measures was determined on a "stare and compare" basis. If the measurement result meets or exceeds the established benchmark value then compliance will have been demonstrated. If the measurement result fails to meet the benchmark, then a condition of noncompliance exists. These comparisons are made using the original, untransformed results. For several benchmark measures, no standard has been agreed upon and are listed as "To Be Determined" in PID 6.3. In these cases, CGE&Y reports the performance measurement results for informational purposes. For interval measures, logarithmic transformations are used.

The Pseudo-CLEC began executing test scenarios for the specific products listed in Section 9.1.2 of the TSD as part of the Functionality Test on December 21, 2000. The Pseudo-CLEC issued its final order on June 29, 2001. This evaluation considers those data disaggregations within the established Qwest reported performance measurement disaggregations. As a result, the desired amounts of iterations were not available for all disaggregations. However, a parity or disparity conclusion is still possible in many cases. In several instances, Pseudo-CLEC data exists for disaggregations not planned in Section 9.1.2 of the TSD as part of the statistical test. To the extent that Pseudo-CLEC data exists in any disaggregation, CGE&Y has provided statistical results.

CGE&Y issued IWOs for all disparities and benchmark failures for the Pseudo-CLEC. If Pseudo-CLEC results indicated a disparity, CGE&Y analyzed Pseudo-CLEC and commercial CLEC data during the retest period where available. Where Pseudo-CLEC data was insufficient for a parity/disparity determination, CGE&Y relied on aggregate CLEC data. In these cases where aggregate CLEC indicated a disparity, CGE&Y issued an IWO. However, in those cases where sufficient Pseudo-CLEC data existed and indicated parity, a disparity for the aggregate CLEC results was out of the scope of the Arizona §271 engagement and is associated with the future performance assurance process.

Per Section 9 of the TSD, no individual product cells were developed for outside an MSA. Therefore, where insufficient data were available for parity/disparity conclusions of a product, CGE&Y considered combined dispatched data for a given product regardless of MSA or Zone designation. This methodology was most often relied on for maintenance and repair measurements due to the low number of troubles that occurred during the Functionality Test.

CGE&Y analyzed Qwest adhoc data for the period December 2000 through July 2001 using Qwest data processing methods as reflected in Qwest's published performance report of August 7, 2001. Subsequent changes to Qwest data processing methods were incorporated into this analysis where possible.

Functionality Test Data Collection

During the Functionality Test, the Pseudo-CLEC recorded the transmission of LSRs via IMA-GUI and EDI OSS interfaces. The Pseudo-CLEC also recorded responses by Qwest back to the Pseudo-CLEC. The Pseudo-CLEC captured the time and type of transaction received by Qwest (i.e., rejects, jeopardy notifications, FOCs, and SOC's). Using this captured data, CGE&Y was able to construct databases detailing the ordering process.

The Pseudo-CLEC sent one file for each interface during each day of testing via e-mail to the Sedona Data e-mail account setup for this specific purpose. These two files were in two different formats. The IMA-GUI file was sent to CGE&Y in an MS Excel spreadsheet. Each row detailed information for each transaction, including date, time, tracking number, Purchase Order Number (PON), version, status, and due dates. The EDI file was submitted to CGE&Y as a pipe-delimited file with similar information. Once CGE&Y received these two files, the data was converted to a tab-delimited file and read into a database one record at a time. CGE&Y updated the master database table, creating a Functionality Test data database detailing all available information for each individual order. This data was then applied to the Qwest Processed adhoc for source data verification.

In addition, CGE&Y processed FOC, reject, and Loss & Completion e-mails from Qwest to the Pseudo-CLEC in order to validate data elements in the Functionality Test data database. Furthermore, the Pseudo-CLEC provided CGE&Y an EDI data feed detailing the same data elements.

Functionality Test Data Reconciliation

The Functionality Test data reconciliation process is designed to validate whether the results Qwest reports in its performance measurements accurately reflect the performance observed by the Pseudo-CLEC. This determines whether Qwest has captured all relevant test data for inclusion in its performance results calculation process and whether Pseudo-CLEC test data are correctly classified as such in Qwest's data. For a more detailed explanation of the data reconciliation process, refer to the Data Reconciliation Report for the Functionality Test Results in Appendix L of this report. The following activities were involved in the validation process:

- Verify that all notification transactions and completions (jeopardies, rejects, FOCs, and SOC's) in the Functionality Test data appear in the appropriate Qwest adhoc data files
- Verify that Qwest adhoc data files include all trouble tickets issued by the Pseudo-CLEC
- Record and resolve discrepancies between the Functionality Test data and Qwest adhoc data files through data requests and/or IWOs

Functionality Test Data Processing

Section 8.5.3 of the MTP requires the calculation of the same performance measurements calculated from Qwest adhoc data using independently gathered data to validate the adhoc calculated results (see also Appendix C of the MTP). Exclusions for each performance measurement are defined in the PID; however, many of these are based on data elements not transmitted to the Pseudo-CLEC (e.g., rate zones, exclusions, dispatch status, flow-through). Thus, Functionality Test data captured by the Pseudo-CLEC are insufficient to calculate the performance measurements as defined in the PID. CGE&Y, working jointly with HPC, the Test Generator, described all the data elements required to calculate PID 6.3 measure results in detail in the Arizona §271 PID Data Element Summary Report. (Appendix R of this report) This report also reflected which of these data elements were independently gathered by the Pseudo-CLEC via the gateway notifiers and therefore validated by CGE&Y as part of the data reconciliation process. In the data reconciliation, CGE&Y validated whether the Qwest adhoc data matched the Functionality Test data collected by the Pseudo-CLEC from notifiers transmitted via the gateway. To the extent that the data reconciliation uncovered any material discrepancies between the two data sources, CGE&Y adjusted the Qwest adhoc data to reflect the performance observed by the Pseudo-CLEC. Results of this data

reconciliation process are documented in CGE&Y's Data Reconciliation Report, which is Appendix L to this Final Report. CGE&Y then used this "corrected" adhoc data to calculate performance measurement results for the Pseudo-CLEC and included these results in Section 2.5.4. Performance measurement results that were obtained using "corrected" adhoc data are specifically identified in Section 2.5.4.

The PID Data Element Summary Report also identified those data elements required to calculate PID compliant measures that are not independently gathered by a CLEC and are only available through the Qwest adhoc data. There are 16 total elements that fall into this category. Each element is individually listed in Section 1.5 of the PID Data Element Summary Report. In addition, there were many key data elements identified within this report, that were independently captured by the Pseudo-CLEC by methods other than through the gateway notifiers that were available to compare to the corresponding elements contained within the Qwest adhoc files. In order to fully comply with the requirements detailed in Section 8.5.3 of the MTP and Section 7.3.4 of the TSD, CGE&Y identified and calculated aggregated measures (FTMs) that corresponded to the measures identified in Appendix C of the MTP, for which, the Pseudo-CLEC gathered all the necessary data elements from the Functionality Test to perform an independent calculation. CGE&Y calculated results for the same defined measure using the raw data from the Qwest adhoc file. The purpose of this task was to compare results obtained using the Pseudo-CLEC's data with the results achieved using Qwest's adhoc to validate key data elements in the Qwest adhoc data not reconciled in the Data Reconciliation Report. The results of these measure calculations are contained in the Functionality Test Results Comparison Report (FTRC). CGE&Y does not expect that results calculated from Pseudo-CLEC gathered data and Qwest adhoc data would match exactly in all instances due to the difference in the data elements used (i.e., Pseudo-CLEC data captures submission times while Qwest adhoc data captures received times). Material discrepancies in results calculated from Pseudo-CLEC gathered data and Qwest adhoc data would identify areas for further investigation to verify if Qwest captures performance data properly. In certain cases where CGE&Y found that the Qwest adhoc data did not accurately record data elements observed by the Pseudo-CLEC, CGE&Y recalculated PID performance measure results using Pseudo-CLEC gathered data elements and represented its parity/disparity analysis. Those PID performance measures that were recalculated in the FTRC are identified in Section 2.5.4.

2.5.3.1 Performance Measurement Test Entrance Criteria

In accordance with Section 7.4 of the MTP, prior to commencing the statistical evaluation of the Functionality Test, the following entrance criteria had to be met:

Criterion	Completed
Statistical Approach has been designed	✓
Test orders have been executed by the Pseudo-CLEC.	✓
CGE&Y has received all adhoc data from Qwest for the functionality test phase.	✓
CGE&Y has received all Functionality Test Data from the Pseudo-CLEC	✓

2.5.4 Analysis

The results of the statistical analysis of Qwest adhoc data and Functionality Test data are presented in the following sections in a series of tables detailing the results for each performance measurement disaggregation where data are available. The following definitions of terms used in the tables will assist in understanding the information communicated by the tables:

d : Number of (retail) standard deviations distance between CLEC and retail in the appropriate transformed scale (log for interval measures and arcsine-square root for binomial measures).

n: The sample size

rd: Risk of concluding parity when there is in fact a material disparity

r0: Risk of concluding disparity when there is in fact (exact) parity

Disparity is determined when the chance of observing a difference at least as large as observed, assuming exact parity, is less than or equal to 0.05, and the difference observed is materially meaningful. The lower risk, *r0*, is presented with the determination.

Disparity for interval measures is determined when $d > .143$ and $r0 < = .05$

Disparity for binomial measures is determined when $d > .0709$ and $r0 < = .05$

Binomial Rate of Success refers to the proportion or percentage of 'activities done correctly'.

Interval measures are measurements based on averages.

Standard: The comparison standard for the test results. For those measures with retail analogs, this would be the Qwest retail result that CLEC results are to be compared to. For those measures without retail analogs, this would be the benchmark which the CLEC results are to be compared to.

Parity is determined when the chance of observing a difference at least as small as observed, assuming material disparity, is less than 0.05 and difference is not materially meaningful. The lower risk, rd , is presented with the determination.

Parity for interval measures is determined when $d < .143$ and $rd \leq .05$

Parity for binomial measures is determined when $d < .0709$ and $rd \leq .05$

A determination of parity or disparity is not made in certain situations that are denoted as follows:

Insuff Evid: When neither $r0$ nor rd is less than .2, there is insufficient data to make any determination

Indeterminate -> DP: When both risks are greater than .05, and $r0 < rd$, (or equivalently, $d > .143$ for interval measures or $d > .0709$ for binomial measures), and the criteria for Insuff Evid is not satisfied, then the situation is described as Indeterminate, Leaning towards Disparity.

Indeterminate -> P: When both risks are greater than .05, and $rd < r0$, (or equivalently, $d < .143$ for interval measures or $d < .0709$ for binomial measures), and the criteria for Insuff Evid is not satisfied, then the situation is described as Indeterminate, Leaning towards Parity.

In the case of interval measures, results are presented for both the actual data (arithmetic) and the log transformed data (log). This may lead to some confusion for the reader. Qwest provides arithmetic results in its monthly performance reports. However, there are cases where data indicates that the results are in parity when looking at the actual data but are out of parity when looking at the log transformed data. There are other cases where the opposite is true. In many cases the two methods agree.

When the two methods disagree in their outcome it is an indication that the underlying data sets exhibit different measures of spread and skewness. In these cases, the logarithmic result is determinative as per Section 9 of the TSD, and is

CGE&Y's best determination of whether or not parity or disparity exists. In the following discussions, CGE&Y will primarily focus on the logarithmic results.

2.5.4.1 Qwest Adhoc Data Calculations

The results of the Functionality Test Performance Measurement Evaluation are detailed and summarized in the following tables and paragraphs:

Pre-Order/Order Response Times

Pre-order response time (PO-1) measures were calculated in the Capacity Test. Refer to Section 4.1.3 of the Capacity Test Report for the results.

Gateway Availability (GA-1)

Measure Description:

GA-1A: Measures the availability of the IMA (Interconnect Mediated Access- graphical user interface), and reports the percentage of Scheduled Up Time the IMA interface is available for view and/or order processing.

GA-1 - Gateway Availability - IMA-GUI (in min)		
Month	Downtime reported by the Pseudo-CLEC	Downtime reported by Qwest
Jan-01	92	15
Feb-01	187	0
Mar-01	>50	35
Apr-01	145	116
May-01	0	172
Jun-01	0	0

Findings:

As illustrated in the above table, the Pseudo-CLEC reported more than fifty minutes of downtime in March. Four outages were recorded during this period for which two were intermittent, and therefore no "end of outage time" was recorded. The other two outages totaled fifty minutes of downtime.

Down times which the Pseudo-CLEC observed on the IMA-GUI determined to be attributed to Qwest exceeded the down times reported by Qwest during the months of January, February, March and April; therefore, AZIWO1198 was issued.

In response to this IWO, the evidence provided by Qwest supports that its procedures for documenting gateway outages is in compliance with the PID. Several of the outages found would count towards GA-1 under Qwest's current interpretation of the definition of "outage" for GA-1 in place since August. However, under the prior interpretation of the definition of "outage," they were excluded. This IWO has therefore been closed.

Gateway Availability (GA-2)

Measure Description:

GA-2: Measures the availability of the EDI interface, and reports the percentage of scheduled time the EDI interface is available.

GA-2 - Gateway Availability - IMA-EDI (in min)		
Month	Down Time reported by the Pseudo-CLEC	Down Time reported by Qwest
Jan-01	0	205
Feb-01	0	751
Mar-01	0	30
Apr-01	0	159
May-01	0	250
Jun-01	0	0

Findings:

There were no Qwest-caused gateway outages for the IMA-EDI interface observed by the Pseudo-CLEC.

Electronic Flow-Through (PO-2)

Measure Description:

PO-2 measures the percentage of electronically submitted LSRs that flow from the electronic gateway interface to the SOP without falling out for manual intervention. Flow-through rates are highly dependent on the training and expertise of the CLECs. Significant differences between Pseudo-CLEC and aggregate CLEC results may be due to lack of training. In addition, the nature of Pseudo-CLEC LSRs may be materially different from those issued by commercial CLECs. CGE&Y recognizes that due to requirements of the test, the mix of Pseudo-CLEC issued LSRs may differ substantially from a commercial CLEC. Disaggregations include flow-through percentage for all LSRs and for those LSRs classified as flow-through eligible by interface type. The standard for this measure is a benchmark that has not yet been

determined (“TBD”). All results are for informational purposes and for discussion in setting an appropriate benchmark.

Table 2.5.4.1a – PO-2A-1 – Electronic Flow-through for LSRs Received via IMA-GUI (Percent)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
LNP	TBD	0.00% n: 5	51.72% n: 23267	N/A	N/A
Resale Aggregate	TBD	13.92% n: 474	55.39% n: 31716	N/A	N/A
Unbundled Loop Agg.	TBD	32.68% n: 153	7.06% n: 6738	N/A	N/A
UNE-P (POTS)	TBD	19.70% n: 198	30.99% n: 284	N/A	N/A

Findings:

No performance standards were available for this measure, therefore no findings are provided.

Table 2.5.4.1b – PO-2A-2 – Electronic Flow-through for LSRs Received via IMA EDI (Percent)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
LNP	TBD	100.0% n: 1	6.27% n: 1004	N/A	N/A
Resale Aggregate	TBD	15.07% n: 438	68.74% n: 7426	N/A	N/A
Unbundled Loop Agg.	TBD	2.25% n: 89	5.35% n: 4918	N/A	N/A
UNE-P (POTS)	TBD	16.52% n: 224	25.00% n: 4	N/A	N/A

Findings:

No performance standards were available for this measure, thus no findings are provided.

Table 2.5.4.1c – PO-2B-1 – Electronic Flow-through for All Eligible LSRs Received via IMA-GUI (Percent)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
LNP	TBD	See note #1	72.76% n: 16538	N/A	N/A
Resale Aggregate	TBD	24.91% n: 265	77.51% n: 22666	N/A	N/A
Unbundled Loop Agg.	TBD	67.57% n: 74	33.33% n: 1428	N/A	N/A
UNE-P (POTS)	TBD	43.82% n: 89	42.11% n: 209	N/A	N/A

Note 1: The table cell is vacant due to no available data.

Findings:

No performance standards were available for this measure, therefore no findings are provided.

The percentage of eligible LSRs that flow through was the subject of AZIWO2113. Earlier in the test phase, the standard for comparison was parity with Qwest retail. CLEC results were significantly worse than Qwest retail results. The PID was subsequently revised to show the standard as “TBD for PO-2.” CGE&Y notes that the large disparity between Pseudo-CLEC and aggregate CLEC flow-through rates for resale can be partially explained by the fact that most of the Pseudo-CLEC data for this product occurred in the January through March timeframe, and flow-through rates have improved substantially in subsequent months. For the period December 21, 2000 through February 2001 resale flow-through rates were 12.7% (21/166). During March 2001 resale flow-through rates were 37.7% (29/77). Resale flow-through rates for the period April through June 2001 were 72.7% (16/22). During the retest period, 17 Pseudo-CLEC and 5,404 Commercial CLEC flow-through eligible LSRs submitted via IMA/GUI exhibited flow-through rates of 76.47% and 90.84% respectively.

Table 2.5.4.1d – PO-2B-2 – Electronic Flow-through for All Eligible LSRs received via IMA EDI (Percent)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
LNP	TBD	100.0% n: 1	30.29% n: 208	N/A	N/A
Resale Aggregate	TBD	64.71% n: 102	90.51% n: 5640	N/A	N/A
Unbundled Loop Agg	TBD	40.00% n: 5	32.03% n: 821	N/A	N/A
UNE-P (POTS)	TBD	50.68% n: 73	33.33% n: 3	N/A	N/A

Findings:

No performance standards were available for this measure, therefore no findings are provided.

The percentage of eligible LSRs that flow-through was the subject of AZIWO2113. (see also, PO-2B-1) During the retest period, 8 Pseudo-CLEC and 2,777 Commercial CLEC flow-through eligible LSRs submitted via IMA/EDI exhibited flow-through rates of 75.00% and 86.82% respectively.

LSR Rejection Notice Interval PO-3

Measure Description:

PO-3 measures the interval between the receipt of a LSR to a rejection notification. Disaggregations include rejected LSRs submitted electronically and returned manually, rejected LSRs submitted and returned electronically, and rejected LSRs submitted and returned manually. The benchmark standards agreed upon by the TAG for this measure are 12 hours for manual rejects via IMA and EDI, 18 seconds for automated rejects via IMA and EDI, and 24 hours for fully manual rejects. CGE&Y was not provided Qwest raw data with transaction types for automated rejects. Only totals were found in the adhoc. The automated reject data results for aggregate CLECs are based on Qwest's published performance results and includes data from Qwest's entire 14-state operating region. Consequently, no logarithmic results are provided below.

Table 2.5.4.1e – PO-3(A, B & C) – LSR Rejection Notice Interval						
Interface	Rejection Type	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
IMA	Manual	12:00:00	Log: 2:24:20 Arith: 6:03:25 n: 118	Log: 1:06:39 Arith: 4:12:11 n: 4110	Pass	Pass
	Auto	0:00:18	Log: 1.89 Arith: 3.28 n: 1232	Arith: 7.70 n: 122239	Pass	Pass
EDI	Manual	12:00:00	Log: 6:45:58 Arith: 12:10:58 n: 181	Log: 1:01:27 Arith: 5:27:45 n: 1333	Fail	Pass
	Auto	0:00:18	Log: 2.27 Arith: 3.83 n: 1236	Arith: 10.65 n: 48272	Pass	Pass
Fax	Manual & IIS	24:00:00	See note #1	Log: 9:58:20 Arith: 20:04:08 n: 1723	See note #1	Pass

Note 1: The table cell is vacant due to no available data.

Findings:

Performance results demonstrate Qwest is providing CLECs with timely rejection notices. Pseudo-CLEC results for EDI-received manually rejected LSRs were the only disaggregation in which the standard was not met for either the Pseudo-CLEC or aggregate CLECs. CGE&Y issued AZIWO1108 for this performance failure. However, as this performance failure was by only 11 minutes and does not appear to be competitively significant when considered with commercial CLEC results, CGE&Y closed AZIWO1108. CGE&Y notes that during the retest period, the 36 GUI and 42 Pseudo-CLEC EDI LSRs rejected manually had average reject notification intervals of 5:33:48 and 2:55:36, respectively, both well under the 12-hour benchmark. Commercial CLEC manual rejection notification intervals also improved to: GUI: 2:20:49 (n=978), EDI: 2:09:37 (n=871), and Fax: 7:43:44 (n=295).

Percent LSRs Rejected PO-4

Measure Description:

PO-4 measures the percentage of LSRs submitted that are rejected for standard categories of errors/reasons. Disaggregations include LSRs electronically received/manually returned and electronically received/electronically returned by interface type, and manually

submitted/manually returned LSRs. This measure is reported for diagnostic purposes only, therefore there is no applicable standard.

Table 2.5.4.1f – PO-4 – LSRs Rejected						
Interface	Rejection Type	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
IMA	Manual	N/A	5.26% n: 2243	6.21% n: 66188	N/A	N/A
	Auto	N/A	55.57% n: 2217	24.31% n: 502800	N/A	N/A
EDI	Manual	N/A	8.36% n: 2226	9.16% n: 14559	N/A	N/A
	Auto	N/A	55.60% n: 2223	19.08% n: 253056	N/A	N/A
Fax	Manual & IIS	N/A	See note #1	13.67% n: 12606	N/A	N/A

Note 1: The table cell is vacant due to no available data.

Findings:

No performance standards were available for this measure, therefore no findings are provided.

Reject rates for the Pseudo-CLEC and aggregate CLECs are similar for manual rejects via IMA and EDI. However, automated rejects for the Pseudo-CLEC are significantly higher than for aggregate CLECs. Based on the data supplied to CGE&Y for AZIWO2114, it is the opinion of CGE&Y that the rejects were attributable to Pseudo-CLEC input errors and not attributable to Qwest gateway systems. Therefore, CGE&Y recommends that aggregate CLEC results be used for any performance evaluation.

During the retest period, Commercial CLEC manual rejection rates were 4.80% of 20,388 GUI-submitted LSRs, 13.06% of 6667 EDI-submitted LSRs, and 7.96% of 3705 LSRs submitted by Fax.

Firm Order Confirmations (FOCs) On Time PO-5

Measure Description:

PO-5 measures the percentage of FOCs received within the standard interval. This measure is evaluated against a benchmark that has been agreed upon by the TAG. The standard for fully electronic FOCs (PO-5A) is 20 minutes. The standard for electronically submitted and manually returned FOCs (PO-5B) is 24-72 hours depending on the product. The standard interval for fully manual FOCs (PO-5C) is 24 hours plus the standard interval in PO-5B. The standard interval for failed flow-through FOCs (PO-5E) is six hours. This measure and the subject of missing notifiers were addressed in AZIWO1140. After further retesting, CGE&Y found that all notifiers were properly delivered, and this IWO was closed.

Table 2.5.4.1g – PO-5A-1 – FOCs On-Time for Fully Electronic LSRs Received via IMA-GUI (Percent)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
LNP	95%	See note #1	99.58% n: 12033	See note #1	Pass
Resale Aggregate	95%	100.0% n: 105	99.46% n: 17657	Pass	Pass
Unbundled Loop Agg.	95%	100.0% n: 50	95.17% n: 476	Pass	Pass

Note 1: The table cell is vacant due to no available data.

Findings:

Results for fully electronic FOCs via IMA GUI indicate that the Pseudo-CLEC and aggregate CLECs both met the benchmark for all product types.

Table 2.5.4.1h – PO-5A-2 – FOCs On Time for Fully Electronic LSRs Received via IMA EDI (Percent)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
LNP	95%	100.0% n: 1	98.41% n: 63	Pass	Pass
Resale Aggregate	95%	99.03% n: 103	99.22% n: 5106	Pass	Pass
Unbundled Loop Agg.	95%	100.0% n: 2	96.96% n: 263	Pass	Pass

Findings:

Results for fully electronic FOCs via EDI demonstrate that the Pseudo-CLEC and aggregate CLECs both met the benchmark for all product types.

Table 2.5.4.1i – PO-5B-1 – FOCs On Time for Electronic/Manual LSRs Received via IMA-GUI (Percent)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
LNP	90%	100.0% n: 4	97.56% n: 10605	Pass	Pass
Resale Aggregate	90%	90.55% n: 614	97.09% n: 14455	Pass	Pass
Unbundled Loop Agg.	90%	96.63% n: 89	96.14% n: 4146	Pass	Pass

Findings:

Results for electronic/manual FOCs via IMA GUI indicate that the Pseudo-CLEC and aggregate CLECs both met the benchmark for all product types.

Table 2.5.4.1j – PO-5B-2 – FOCs On Time for Electronic/Manual LSRs Received via IMA EDI (Percent)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
LNP	90%	See note #1	80.15% n: 811	See note #1	Fail
Resale Aggregate	90%	78.23% n: 542	98.06% n: 2315	Fail	Pass
Unbundled Loop Agg.	90%	95.77% n: 71	97.37% n: 1747	Pass	Pass

Note 1: The table cell is vacant due to no available data.

Findings:

CGE&Y issued AZIWO2108 regarding the low rate of on time resale aggregate FOCs for the Pseudo-CLEC for electronic/manual FOCs via EDI. However, aggregate CLECs are exceeding the 90 percent

benchmark for this disaggregation. In its response to AZIWO2108, Qwest indicated that the performance failure was due to the inclusion of a mix of Centrex and Complex Resale products in the March through June 2001 time period, that are not previously high volume products in the state of Arizona. Qwest also indicated it made system and process improvements to the FOC processes, providing additional focus on the Centrex and Complex Resale products. Due to the fact that commercial CLECs do not presently order sufficient volumes of these products to test Qwest's FOC timeliness, additional testing of Centrex and Complex Resale LSRs was performed to verify Qwest's system improvements.

During the retest, out of 74 Pseudo-CLEC Resale LSRs submitted electronically via IMA/EDI and processed manually, 97.30% received a FOC on time. As this exceeded the 90% benchmark, AZIWO2108 was closed. Of 943 such commercial CLEC LSRs, 99.15% received a FOC on time.

There was no Pseudo-CLEC data for LNP, but results for aggregate CLECs indicate a problem exists. CGE&Y issued AZIWO2126 in response to this performance failure. During the retest period, out of 211 Commercial CLEC LNP LSRs submitted electronically via IMA/EDI and processed manually, 100% received a FOC on time. As this exceeded the 90% benchmark, AZIWO2126 was closed.

The Pseudo-CLEC and aggregate CLECs both meet the benchmark for Unbundled Loop Aggregate.

Table 2.5.4.1k -. PO-5C – FOCs on Time for Manual					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
LNP	90%	See note #1	72.73% n: 110	See note #1	Fail
Resale Aggregate	90%	See note #1	94.89% n: 8692	See note #1	Pass
Unbundled Loop Agg.	90%	See note #1	92.08% n: 101	See note #1	Pass

Note 1: The table cell is vacant due to no available data.

Findings:

No Pseudo-CLEC data is available for fully manual FOCs. Aggregate CLEC results failed to meet the 90 percent benchmark for LNP. As a

result, CGE&Y issued AZIWO2126. During the retest period, out of 23 LNP LSRs submitted by commercial CLECs via fax, 95.65% received a FOC on time. As a result, AZIWO2126 was closed.

Commercial CLEC resale and Unbundled Loop Aggregate results exceeded the benchmark.

Table 2.5.4.1l – PO-5E-1 – FOCs On Time for Failed Flow-through LSRs for IMA-GUI(Business Hours: Minutes)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
LNP	6 hrs	See note #1	Log: 0:00:40 Arith: 0:54:31 n: 4368	See note #1	Pass
Resale Aggregate	6 hrs	See note #1	Log: 1:48:14 Arith: 4:17:33 n: 4	See note #1	Pass
Unbundled Loop Agg.	6 hrs	Log: 0:05:48 Arith: 1:45:40 n: 13	Log: 0:22:09 Arith: 1:57:20 n: 821	Pass	Pass

Note 1: The table cell is vacant due to no available data.

Findings:

Results for the Pseudo-CLEC and aggregate CLECs met the established benchmark for all products where data was available.

Table 2.5.4.1m – PO-5E-2 – FOCs On Time for Failed Flow-through LSRs for IMA EDI (Business Hours:Minutes)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
LNP	6 hrs	See note #1	Log: 1:02:31 Arith: 7:50:16 n: 123	See note #1	Fail
Unbundled Loop Agg.	6 hrs	Log: 0:03:07 Arith: 0:20:42 n: 3	Log: 1:00:01 Arith: 1:57:21 n: 501	Pass	Pass

Note 1: The table cell is vacant due to no available data.

Findings:

Pseudo-CLEC and aggregate CLEC results for Unbundled Loop Aggregate met the established 6-hour benchmark. However, Aggregate CLEC results missed the 6-hour benchmark for LNP. In response, CGE&Y issued AZIWO2126. During the retest, the average FOC interval for the 9 LNP LSRs submitted by commercial CLECs was 1:05:46. As this met the 6-hour benchmark, AZIWO2126 was closed.

Work Completion Notification PO-6

Measure Description:

PO-6 measures the average interval from the time an order is posted as complete in WFA to the time electronic notification is transmitted to the CLEC. Due to the receipt of several corrected adhoc data sets for work completion notifications, data used in the analysis consists of part of April and all of May, June, and July 2001. Qwest indicated earlier data were unreliable, therefore they were not used. Disaggregations are based on interface type (IMA GUI and IMA EDI). The benchmark standard for this measure has not yet been determined.

Table 2.5.4.1n – PO-6A&B – Work Completion Notification (Hours:Minutes)					
Interface	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
IMA GUI	TBD	Log: 2:25:04 Arith: 7:30:00 n: 297	Log: 3:30:31 Arith: 10:05:39 n: 16658	N/A	N/A
IMA EDI	TBD	Log: 2:42:51 Arith: 7:55:40 n: 212	Log: 2:57:33 Arith: 3:57:06 n: 1408	N/A	N/A

Findings:

No performance standards were available for this measure, therefore no findings are provided.

Billing Completion Notification PO-7

Measure Description:

PO-7 measures the percentage of billing completion notifications that are transmitted to the CLEC within four business days of posting in SOP. Due to the receipt of several corrected adhoc data sets for billing notifications, data used in the analysis consists of part of April and all of May, June, and July 2001. Qwest indicated earlier data were unreliable, therefore they were not used. Disaggregations are based on interface type (IMA GUI and IMA EDI) and the standard for comparison is parity with Qwest retail results.

Table 2.5.4.1o – PO-7A&B – Billing Completion Notification (Hours:Minutes)					
Interface	Standard	Pseudo- CLEC Results	Aggregate CLEC Results	Pseudo- CLEC vs. Standard	Aggregate CLEC vs. Standard
IMA GUI	96.71% n: 1744685	95.57% n: 384	95.34% n: 24572	Parity d=0.030, rd=.000	Parity d=0.035, rd=.000
IMA EDI	96.71% n: 1744685	95.81% n: 191	99.05% n: 3676	Parity d=0.024, rd=.003	Parity d=-.085, rd=.000

Findings:

Pseudo-CLEC and commercial CLEC results for both IMA and EDI interfaces demonstrate parity with Qwest retail results.

Jeopardy Notice Interval PO-8
Measure Description:

PO-8 measures the average time, for those orders placed in jeopardy status prior to the due date, from when the customer is first notified that the order is in jeopardy to the original due date for the order. Disaggregations are based on product type and the standard for comparison is parity with Qwest retail results. The Qwest retail comparative results are not disaggregated by product type. CGE&Y recalculated performance results for PO-8 based on the findings of AZIWO1220. (See FTRC Report, Section 3.7.)

Table 2.5.4.1p – PO-8 – Jeopardy Notice Interval					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
Non-Designed	Log: 2.41 Arith: 5.59 n: 9018	Log: 1.91 Arith: 2.42 n: 12	Log: 1.50 Arith: 2.25 N: 153	Log: Insuff Evid d=0.175, r0=.273, rd=.351 Insuff Evid d=0.165, r0=.284, rd=.338	Log: Disparity d=0.348, r0=.000 Arith: Disparity d=0.173, r0=.017
Unbundled Loop and Number Portability	Log: 2.41 Arith: 5.59 n: 9018	Log: 2.30 Arith: 2.33 n: 3	Log: 3.10 Arith: 4.45 n: 189	Log: Insuff Evid d=0.036, r0=.475, rd=.333 Insuff Evid d=0.169, r0=.385, rd=.420	Log: Parity d=-.198, rd=.000 Arith: Parity d=0.059, rd=.001

Findings:

For non-designed services, aggregate CLEC jeopardy intervals were significantly shorter than for Qwest retail customers. Pseudo-CLEC information was insufficient. CGE&Y issued AZIWO2109 for jeopardy notice intervals for non-designed services. CGE&Y analyzed commercial CLEC results for September through October 2001 to determine if the issues in AZIWO2109 had been resolved. While there has been improvement in PO-8 for non-designed services, increasing logarithmic average jeopardy intervals to 1.88 days, this improvement has been insufficient to achieve a parity finding. Commercial CLEC results are now indeterminate leaning towards disparity (d=0.177, r0=.168). CGE&Y closed AZIWO2109 and submitted the results to the TAG.

Pseudo-CLEC data were insufficient for Unbundled Loop and Number Portability orders. However, aggregate CLEC results demonstrate that CLECs received jeopardy notification intervals in parity with Qwest retail operations.

Timely Jeopardy Notices PO-9

Measure Description:

PO-9 measures the percentage of orders that miss the original due date that were provided advance jeopardy notification. Disaggregations are based on product type and the standard of comparison is parity with Qwest retail results. CGE&Y recalculated performance results for PO-9 based on the findings of AZIWO2130. (See FTRC Report, Section 3.8)

Table 2.5.4.1q – PO-9 – Timely Jeopardy Notices (A/ MA)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
Non-Designed	34.72% n: 19517	37.04% n: 27	23.08% n: 468	Parity d=-.024, rd=.030	Disparity d=0.129, r0=.000
UNE-P (POTS)	34.72% n: 19517	0.00% n: 7	0.00% n: 2	Disparity d=0.630, r0=.027	Indeterminate -> DP d=0.630, r0=.151
Unbundled Loop and Number Portability	34.72% n: 19517	100.0% n: 1	48.02% n: 177	Parity d=-.941, rd=.030	Parity d=-.135, rd=.000

Findings:

Pseudo-CLEC results for non-designed services receiving a timely jeopardy notification were in parity with Qwest retail results. However, aggregate CLEC results show a significant disparity with retail results. This disparity was the subject of AZIWO2109. CGE&Y analyzed commercial CLEC results for September through October 2001 to determine if the issues identified in AZIWO2109 had been resolved. Commercial results indicate that Qwest's manual tracking effort to improve jeopardy notification improved advance jeopardy notification rates provided to commercial CLECs to 59% to achieve a (better than) parity result (d=-.277, rd=.000). CGE&Y closed AZIWO2109 and submitted the results to the TAG.

For Unbundled Loop and Number Portability orders, aggregate CLEC results show that nearly half the time the due date was missed, a timely jeopardy notification was transmitted. Pseudo-CLEC results reveal that for the only due date that was missed, prior jeopardy notification was received. Both results indicate that the percentage of jeopardy notifications received by CLECs in advance of the due date is at parity with retail. For UNE-P missed due dates, neither the Pseudo-CLEC nor aggregate CLECs received prior notification in any case. This is a disparity for the Pseudo-CLEC and was the subject of AZIWO2111. CGE&Y finds that the low number of observations for UNE-P jeopardies are insufficient to make any final determinations. It is not possible to test for jeopardy timeliness as jeopardies are not planned. In addition, current commercial CLECs are not experiencing sufficient missed due dates for UNE-P orders to properly evaluate jeopardy timeliness. Qwest only missed two UNE-P installation commitments for commercial CLECs during the Functionality Test period. During

the retest, Qwest met all 31 UNE-P due dates for the Pseudo-CLEC. CGE&Y finds this persuasive evidence that CLECs are not being competitively harmed by late UNE-P jeopardy notices. However, should Qwest performance for UNE-P installation commitments met decline, CGE&Y recommends reevaluating Qwest's performance for UNE-P jeopardy timeliness comparing commercial CLEC results against Qwest retail.

Installation Commitments Met OP-3

Measure Description:

OP-3 measures the percentage of installations that are completed by the scheduled due date. Disaggregations include dispatches within MSAs, dispatches outside MSAs, and no dispatches. Designed services are disaggregated by dispatches within Interval Zone One and dispatches within Interval Zone Two. The standard of comparison for this measure is parity with Qwest retail results except for unbundled 2 wire analog loops, which are measured against a 90 percent benchmark. CGE&Y recalculated performance results for OP-3 based on the findings of AZIWO2130. (See FTRC Report, Section 4.1.)

Table 2.5.4.1r – OP-3A – Installation Commitments Met (Percent) - Dispatches Within MSAs (Y/MY)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
Business	91.08% n: 21936	89.58% n: 96	85.24% n: 569	Parity d=0.025, rd=.020	Disparity d=0.091, r0=.000
Centrex 21	89.43% n: 3518	See note #1	98.18% n: 55	See note #1	Parity d=-.196, rd=.000
ISDN BRS	71.67% n: 180	100.0% n: 1	See note #1	Indeterminate --> P d=-.561, rd=.199	See note #1
PBX	81.90% n: 221	100.0% n: 1	See note #1	Insufficient Evidence d=-.439, r0=.680, rd=.256	See note #1
Residential	95.42% n: 128333	88.89% n: 45	95.60% n: 3000	Disparity d=0.124, r0=.018	Parity d=-.004, rd=.000
UNE-P (POTS)	94.79% n: 150269	95.05% n: 101	85.71% n: 7	Parity d=-.006, rd=.007	Indeterminate --> DP d=0.157, r0=.140

Note 1: The table cell is vacant due to no available data.

Findings:

Pseudo-CLEC results for Business installation commitments met were in parity with Qwest retail results. However, commercial CLEC results are in disparity with Qwest retail results. This disparity is associated with the future performance assurance process and is out of the scope of the Arizona §271 engagement.

Qwest failed to provide the Pseudo-CLEC with parity service for Residential orders. Qwest failed to meet its scheduled installation commitment for 5 of the 45 Pseudo-CLEC appointments. CGE&Y issued AZIWO2110 for this disparity. During the retest period, Qwest met all 4 dispatched Residential installation commitments. When considered with commercial CLEC results, which are in parity, and Pseudo-CLEC residential installation results outside an MSA, it is the opinion of CGE&Y that Qwest meets dispatched residential installation commitments at acceptable levels.

Pseudo-CLEC results for UNE-P installation commitments met were in parity with Qwest retail results.

There were no Pseudo-CLEC data for Centrex 21 installations. Commercial CLEC results were in parity with Qwest retail results.

Table 2.5.4.1s – OP-3B – Installation Commitments Met (Percent) - Dispatches Outside MSAs(Y/ MN)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
Business	89.71% n: 2118	100.0% n: 2	53.85% n: 13	Insufficient Evidence d=-.327, r0=.684, rd=.237	Disparity d=0.420, r0=.000
Centrex 21	87.34% n: 237	See note #1	100.0% n: 2	See note #1	Insufficient Evidence d=-.364, r0=.704, rd=.218
Residential	92.48% n: 13326	100.0% n: 5	93.75% n: 80	Indeterminate --> P d=-.278, rd=.159	Parity d=-.025, rd=.007
UNE-P (POTS)	92.10% n: 15444	100.0% n: 6	See note #1	Indeterminate --> P d=-.285, rd=.133	See note #1

Note 1: The table cell is vacant due to no available data.

Findings:

Rural non-designed dispatched orders were not a focus of the Third Party Test on an individual product basis, so there was insufficient Pseudo-CLEC evidence to draw definitive conclusions within the product groups tested in this disaggregation. However, all of the 13 such orders were provisioned on time, including all five Residential orders. In addition, aggregate CLEC results are in parity for Residential orders. Therefore, CGE&Y finds that Qwest is providing CLECs with parity service for dispatched residential installation appointments met outside a MSA.

Commercial CLEC results for dispatched business orders outside MSAs indicated a lower rate of on-time commitments (54%) than Retail (90%). Future commercial results will determine if the issues relating to this disparity have been resolved.

Table 2.5.4.1t – OP-3C – Installation Commitments Met (Percent) - No dispatches (N/ MA)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
Business	98.87% n: 32495	99.40% n: 166	98.47% n: 3212	Parity d=-.029, rd=.002	Parity d=0.017, rd=.000
Centrex 21	98.29% n: 8459	100.0% n: 32	99.33% n: 300	Indeterminate -> P d=-.131, rd=.057	Parity d=-.050, rd=.000
ISDN BRS	92.92% n: 113	100.0% n: 19	100.0% n: 1	Parity d=-.269, rd=.039	Insufficient Evidence d=-.269, r0=.608, rd=.332
Megabit	99.11% n: 10128	100.0% n: 1	100.0% n: 2	Insufficient Evidence d=-.094, r0=.538, rd=.405	Insufficient Evidence d=-.094, r0=.553, rd=.367
PBX	98.66% n: 599	100.0% n: 22	100.0% n: 5	Indeterminate --> P d=-.116, rd=.112	Insufficient Evidence d=-.116, r0=.602, rd=.279
Residential	99.73% n: 705441	97.33% n: 187	99.38% n: 12668	Disparity d=0.112, r0=.000	Parity d=0.026, rd=.000
UNE-P (POTS)	99.69% n: 737937	99.53% n: 212	100.0% n: 245	Parity d=0.013, rd=.005	Parity d=-.056, rd=.001

Findings:

Among non-dispatched service orders, Pseudo-CLEC results demonstrate that the rate at which Qwest met scheduled installation

appointments for Business, ISDN BRS and UNE-P orders was in parity with Retail. Commercial CLEC results were also in parity for these products where sufficient data were available. While Pseudo-CLEC Residential orders were provisioned on-time at a lower rate than retail Residential orders, commercial CLEC results were in parity with Qwest retail. The disparity for Pseudo-CLEC residential results was the subject of AZIWO2110. CGE&Y finds that Qwest meets over 97 percent of installation commitments for the Pseudo-CLEC and 99 percent for commercial CLECs. During the retest, Qwest met all 30 non-dispatched Residential installation commitments. Therefore, in the opinion of CGE&Y, Qwest is meeting residential installation commitments for its competitors at an acceptable level.

In addition, the Pseudo-CLEC Centrex 21 and PBX results leaned in the direction of parity, although their sample size as individual products was insufficient for a statistically significant determination. Commercial CLEC results also demonstrated parity of on-time provisioning for non-dispatched Centrex 21 orders.

Table 2.5.4.1u – OP-3D – Installation Commitments Met (Percent) - Interval Zone One (A/HY)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
DS0	88.43% n: 121	100.0% n: 1	See note #1	Insufficient Evidence d=-.347, r0=.641, rd=.298	See note #1
ISDN BRS	93.64% n: 1400	80.00% n: 10	100.0% n: 13	Disparity d=0.209, r0=.039	Indeterminate --> P d=-.255, rd=.066
Megabit	93.68% n: 14775	100.0% n: 3	100.0% n: 1	Insufficient Evidence d=-.254, r0=.674, rd=.234	Insufficient Evidence d=-.254, r0=.602, rd=.338
PBX	89.86% n: 207	100.0% n: 1	100.0% n: 7	Insufficient Evidence d=-.324, r0=.631, rd=.308	Indeterminate --> P d=-.324, rd=.095
Unbundled Loop ADSL	95.71% n: 25110	100.0% n: 2	100.0% n: 6	Insufficient Evidence d=-.209, r0=.618, rd=.303	Indeterminate -> P d=-.209, rd=.185
Unbundled 2 Wire Analog	90.0%	100.0% n: 79	99.55% n: 6825	Pass	Pass

Note 1: The table cell is vacant due to no available data.

Findings:

Among designed service orders in Interval Zone One, Pseudo-CLEC results indicated a disparity with Qwest retail for ISDN BRS. This disparity was the subject of AZIWO2110. However, this disparity was based on only ten observations and Qwest met all installation commitments for commercial CLEC ISDN BRS orders in Interval Zone One. During the retest, Qwest met all 6 non-designed and the only Pseudo-CLEC ISDN BRS designed installation commitment. Therefore, in the opinion of CGE&Y, Qwest meets installation commitments for ISDN BRS orders in Interval Zone One at acceptable levels. (91.7% for all CLECs during the Functionality Test and retest.)

Unbundled 2-wire analog results met the established 90 percent benchmark for both the Pseudo-CLEC and aggregate CLECs.

All other products indicated a high level of service for the Pseudo-CLEC and aggregate CLECs (meeting 100 percent of appointments for the Pseudo-CLEC and commercial CLECs), but statistically significant determinations were not possible.

Table 2.5.4.1v – OP-3E - Installation Commitments Met (Percent) - Interval Zone Two (A/HN)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
DS0	90.20% n: 102	100.0% n: 59	See note #1	Parity d=-.318, rd=.001	See note #1
ISDN BRS	86.53% n: 193	50.00% n: 2	See note #1	Indeterminate -> DP d=0.410, r0=.066	See note #1
PBX	90.28% n: 72	See note #1	100.0% n: 2	See note #1	Insufficient Evidence d=-.317, r0=.676, rd=.245
Unbundled 2 Wire Analog	90.0%	100.0% n: 1	100.0% n: 1	Pass	Pass

Note 1: The table cell is vacant due to no available data.

Findings:

Results for installation commitments in Interval Zone Two demonstrate that Qwest provisioned Pseudo-CLEC DS0 orders on-time at a rate in parity with Retail results.

Installation Intervals OP-4

Measure Description:

This measure reports the average time to install service.

Disaggregations are the same as for Installation Commitments Met measurements. The standard of comparison for this measure is parity with Qwest retail results except for unbundled 2 wire analog loops, which are measured against a six-day benchmark.

Table 2.5.4.1w – OP-4A – Installation Interval (Average Days) - Dispatches within MSAs (Y/MY)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
Business	Log: 4.01 Arith: 5.78 n: 21917	Log: 4.72 Arith: 5.50 n: 96	Log: 4.29 Arith: 5.41 n: 569	Log: Disparity d=0.197, r0=.027 Arith: Parity d=-.037, rd=.001	Log: Parity d=0.081, rd=.000 Arith: Parity d=-.049, rd=.000
Centrex 21	Log: 4.52 Arith: 6.50 n: 3507	See note #1	Log: 4.76 Arith: 6.38 n: 55	See note #1	Log: Parity d=0.060, rd=.049 Arith: Parity d=-.015, rd=.013
ISDN BRS	Log: 3.65 Arith: 7.59 n: 180	Log: 3.00 Arith: 3.00 n: 1	See note #1	Log: Insuff. Evid. d=-.172, r0=.568, rd=.324 Arith: Insuff. Evid. d=-.300, r0=.618, rd=.280	See note #1
PBX	Log: 4.26 Arith: 6.85 n: 221	Log: 4.00 Arith: 4.00 n: 1	See note #1	Log: Insuff. Evid. d=-.075, r0=.530, rd=.360 Arith: Insuff. Evid. d=-.246, r0=.597, rd=.298	See note #1
Residential	Log: 4.47 Arith: 5.75 n: 128297	Log: 4.24 Arith: 5.33 n: 45	Log: 2.26 Arith: 3.13 n: 3000	Log: Parity d=-.079, rd=.007 Arith: Parity d=-.071, rd=.009	Log: Parity d=-.961, rd=.000 Arith: Parity d=-.444, rd=.000
UNE-P (POTS)	Log: 4.40 Arith: 5.75 n: 150214	Log: 3.66 Arith: 3.73 n: 101	Log: 4.08 Arith: 5.43 n: 7	Log: Parity d=-.257, rd=.000 Arith: Parity d=-.328, rd=.000	Log: Indeterminate --> P d=-.107, rd=.150 Arith: Indeterminate --> P d=-.053, rd=.186

Note 1: The table cell is vacant due to no available data.

Findings:

Among dispatched orders within MSAs, Qwest failed to provide the Pseudo-CLEC with parity provisioning intervals for business orders. This disparity was the subject of AZIWO2107. However, this disparity was for less than one day (0.71 days). In addition, commercial CLEC results for dispatched business orders in an MSA were in parity with Qwest retail. During the retest period, commercial CLEC results confirmed this parity finding as commercial CLEC results were 3.6 days versus 4.25 for Qwest retail (rd=.005; d=.205). Therefore, in the opinion of CGE&Y, Qwest provides CLECs with dispatched business installations at acceptable levels.

For residential and UNE-P orders, CGE&Y finds that provisioning intervals were demonstrated to be in parity with retail for both the Pseudo-CLEC and commercial CLECs where sufficient data were available.

There were no Pseudo-CLEC data for Centrex 21 installations requiring a dispatch in an MSA. The commercial CLEC results indicated provisioning intervals in parity with retail for Centrex 21.

Table 2.5.4.1x – OP-4B – Installation Interval (Average Days) – Dispatches outside MSAs (Y/MN)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
Business	Log: 5.12 Arith: 7.26 n: 2118	Log: 4.27 Arith: 4.50 N: 2	Log: 8.66 Arith: 12.23 n: 13	Log: Insuff. Evid. d=-.216, r0=.620, rd=.239 Arith: Indeterminate -> P d=-.313, rd=.199	Log: Disparity d=0.648, r0=.010 Arith: Disparity d=0.563, r0=.021
Centrex 21	Log: 4.66 Arith: 6.59 n: 237	See note #1	Log: 5.84 Arith: 7.00 n: 2	See note #1	Log: Insuff. Evid. d=0.278, r0=.348, rd=.496 Arith: Insuff. Evid. d=0.048, r0=.473, rd=.369
Residential	Log: 5.14 Arith: 6.81 n: 13326	Log: 4.35 Arith: 5.40 N: 5	Log: 3.14 Arith: 3.75 n: 80	Log: Indeterminate -> P d=-.231, rd=.124 Arith: Indeterminate -> P d=-.192, rd=.143	Log: Parity d=-.672, rd=.000 Arith: Parity d=-.417, rd=.000
UNE-P (POTS)	Log: 5.13 Arith: 6.87 n: 15444	Log: 3.25 Arith: 3.33 N: 6	See note #1	Log: Parity d=-.611, rd=.014 Arith: Parity d=-.468, rd=.033	See note #1

Note 1: The table cell is vacant due to no available data.

Findings:

For UNE-P installations requiring a dispatch outside a MSA, Pseudo-CLEC provisioning intervals were demonstrated to be in parity with Qwest retail, the only product with sufficient Pseudo-CLEC data. In addition, Aggregate CLEC results were in parity for residential orders.

Qwest failed to provide commercial CLECs with parity service for business orders requiring a dispatch outside an MSA. The interval for aggregate CLECs was arithmetically five days longer than for Qwest retail customers, and almost three and a half days longer based on log-transformed data. This disparity was discussed in CGE&Y's supplemental response to AWIWO2107. CGE&Y analyzed commercial CLEC results for all dispatched business orders during the retest. Results indicated that commercial CLECs received parity dispatched business installation intervals during this period. Therefore, CGE&Y finds that Qwest is providing CLECs with dispatched business installation intervals at acceptable levels.

Table 2.5.4.1y – OP-4C – Installation Interval (Average Days) – No Dispatches (N/MA)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
Business	Log: 1.57 Arith: 2.34 n: 30880	Log: 1.62 Arith: 2.89 n: 163	Log: 2.36 Arith: 2.99 n: 3089	Log: Parity d=0.029, rd=.001 Arith: Disparity d=0.206, r0=.004	Log: Disparity d=0.385, r0=.000 Arith: Disparity d=0.244, r0=.000
Centrex 21	Log: 1.80 Arith: 2.72 n: 8003	Log: 3.06 Arith: 3.77 n: 30	Log: 3.10 Arith: 4.29 n: 267	Log: Disparity d=0.500, r0=.003 Arith: Disparity d=0.353, r0=.027	Log: Disparity d=0.512, r0=.000 Arith: Disparity d=0.529, r0=.000
ISDN BRS	Log: 1.50 Arith: 3.01 n: 106	Log: 4.09 Arith: 5.63 n: 19	Log: 5.00 Arith: 5.00 n: 1	Log: Disparity d=0.839, r0=.000 Arith: Indeterminate -> DP d=0.371, r0=.068	Log: Indeterminate -> DP d=1.021, r0=.155 Arith: Insuff Evid d=0.282, r0=.390, rd=.499
Megabit	Log: 2.13 Arith: 2.90 n: 10053	Log: 5.00 Arith: 5.00 n: 1	Log: 0.82 Arith: 1.50 n: 2	Log: Indeterminate -> DP d=0.952, r0=.171 Arith: Insuff. Evid. d=0.838, r0=.201, rd=.710	Log: Parity d=-.883, rd=.049 Arith: Indeterminate -> P d=-.555, rd=.117
PBX	Log: 1.97 Arith: 2.65 n: 587	Log: 4.09 Arith: 4.41 n: 22	Log: 1.48 Arith: 2.00 n: 4	Log: Disparity d=0.846, r0=.000 Arith: Disparity d=0.667, r0=.001	Log: Indeterminate -> P d=-.303, rd=.121 Arith: Indeterminate -> P d=-.248, rd=.144
Residential	Log: 1.81 Arith: 2.49 n: 638958	Log: 1.14 Arith: 1.91 n: 185	Log: 1.22 Arith: 1.86 n: 12205	Log: Parity d=-.445, rd=.000 Arith: Parity d=-.231, rd=.000	Log: Parity d=-.388, rd=.000 Arith: Parity d=-.252, rd=.000
UNE-P (POTS)	Log: 1.80 Arith: 2.48 n: 669839	Log: 2.23 Arith: 2.73 n: 211	Log: 1.82 Arith: 2.27 n: 223	Log: Disparity d=0.227, r0=.000 Arith: Parity d=0.097, rd=.003	Log: Parity d=0.014, rd=.000 Arith: Parity d=-.085, rd=.000

Findings:

Pseudo-CLEC results for business installations requiring no dispatch were in parity with Qwest retail. By contrast, Qwest failed to provide commercial CLECs with parity performance for this same product. However, this disparity is associated with the future performance assurance process and is out of the scope of the Arizona 271 engagement.

Qwest also failed to provide the Pseudo-CLEC with parity installation intervals for UNE-P installations requiring no dispatch. This disparity was the subject of AZIWO2104. Pseudo-CLEC UNE-P installation intervals were about half a day longer than Qwest retail using log-transformed data (2.23 days versus 1.80 days). However, aggregate CLEC results were in parity. CGE&Y retested 49 UNE-P non-dispatched orders. Results of the retest indicated an improvement as Pseudo-CLEC results (2.66 days) were indeterminate leaning towards disparity with Qwest retail (2.14 days) ($r_0=.097$; $d=.194$). Commercial CLEC experienced UNE-P intervals of 2.31 days during the retest period which were in parity ($r_d=.000$; $d=.084$). Therefore, in the opinion of CGE&Y, this disparity does not preclude CLECs from competing in Arizona and Qwest is providing CLECs with installation intervals for UNE-P orders requiring no dispatch at acceptable levels.

Pseudo-CLEC and commercial CLEC results were in parity for Residential installations requiring no dispatch.

Among non-dispatched orders, Pseudo-CLEC results indicated that Centrex 21, ISDN BRS, and PBX provisioning intervals were significantly longer than for Qwest retail. Of these products, Qwest failed to provide commercial CLECs with parity installation intervals for Centrex 21, the only product with sufficient data. CGE&Y submitted AZIWO2100 regarding the disparities found for non-dispatched Centrex 21, PBX, and ISDN BRS (and designed ISDN BRS). Centrex 21 Pseudo-CLEC and Commercial CLEC provisioning intervals during the retest period seem similar to retail, however, the data is insufficient to make a determination regarding parity. CGE&Y retested Qwest's provisioning of designed and non-designed ISDN BRS lines. For non-dispatched (non-designed) Basic Rate ISDN orders, both Pseudo-CLEC and commercial CLEC provisioning intervals were more than twice as long as Retail, with a significant and substantial disparity determination made for the Pseudo-CLEC retest data. This confirms the disparity finding during the Functionality Test.

Table 2.5.4.1z – OP-4D – Installation Interval (Average Days) - Interval Zone One (A/HY)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
DSO	Log: 6.16 Arith: 8.05 n: 108	Log: 4.00 Arith: 4.00 n: 1	See note #1	Log: Indeterminate -> P d=-.633, rd=.180 Arith: Insuff Evid d=-.410, r0=.659, rd=.244	See note #1
ISDN BRS	Log: 7.36 Arith: 8.99 n: 1318	Log: 14.43 Arith: 15.30 n: 10	Log: 13.84 Arith: 13.92 n: 13	Log: Disparity d=1.075, r0=.000 Arith: Disparity d=0.875, r0=.003	Log: Disparity d=1.008, r0=.000 Arith: Disparity d=0.684, r0=.007
Megabit	Log: 10.59 Arith: 11.17 n: 14413	Log: 5.00 Arith: 5.00 n: 3	Log: 24.00 Arith: 24.00 n: 1	Log: Parity d=-2.40, rd=.000 Arith: Parity d=-1.19, rd=.005	Log: Disparity d=2.714, r0=.003 Arith: Disparity d=2.483, r0=.007
PBX	Log: 7.51 Arith: 9.62 n: 197	Log: 5.00 Arith: 5.00 n: 1	Log: 12.20 Arith: 15.71 n: 7	Log: Indeterminate -> P d=-.560, rd=.200 Arith: Insuff Evid d=-.508, r0=.694, rd=.214	Log: Disparity d=0.687, r0=.037 Arith: Disparity d=0.671, r0=.041
Unbundled Loop ADSL	Log: 5.67 Arith: 7.78 n: 24674	See note #1	Log: 5.19 Arith: 5.20 n: 5	See note #1	Log: Indeterminate -> P d=-.091, rd=.200 Arith: Indeterminate -> P d=-.437, rd=.053
Unbundled 2 Wire Analog	6 Days	Log: 5.12 Arith: 5.15 n: 47	Log: 5.19 Arith: 5.33 n: 2829	Pass	Pass

Note 1: The table cell is vacant due to no available data.

Findings:

Unbundled 2 Wire Analog results (the only disaggregation with more than ten observations), met the established six-day benchmark for the Pseudo-CLEC and aggregate CLECs.

Qwest failed to provide parity installation intervals for ISDN BRS for the Pseudo-CLEC and aggregate CLECs in Interval Zone One. Although there were only ten Pseudo-CLEC observations for this disaggregation, CGE&Y notes that the log difference with retail was seven days for the Pseudo-CLEC and over six days for commercial CLECs. A similar difference was also found for ISDN BRS in Interval Zone Two. The ISDN BRS disparity was discussed in AZIWO2100. CGE&Y retested Qwest's provisioning of designed and non-designed ISDN BRS lines. CGE&Y retest data for designed ISDN BRS lines in Interval Zone One indicated that Qwest provided parity service to the Pseudo-CLEC, but this was based on only one observation.

Table 2.5.4.1aa – OP-4E - Installation Interval (Average Days) - Interval Zone Two (A/HN)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
DS0	Log: 5.01 Arith: 7.06 n: 100	Log: 3.57 Arith: 3.93 n: 59	See note #1	Log: Parity d=-.472, rd=.000 Arith: Parity d=-.297, rd=.000	See note #1
ISDN BRS	Log: 9.82 Arith: 11.75 n: 179	Log: 18.41 Arith: 19.50 n: 2	See note #1	Log: Indeterminate -> DP d=1.074, r0=.065 Arith: Indeterminate -> DP d=0.902, r0=.102	See note #1
PBX	Log: 9.29 Arith: 10.96 n: 70	See note #1	Log: 24.00 Arith: 24.00 n: 1	See note #1	Log: Indeterminate -> DP d=1.633, r0=.052 Arith: Disparity d=1.878, r0=.031
Unbundled 2 Wire Analog	6 Days	Log: 5.00 Arith: 5.00 n: 1	See note #1	Pass	See note #1

Note 1: The table cell is vacant due to no available data.

Findings:

Pseudo-CLEC results for DS-0 indicated that Qwest provided better service to the Pseudo-CLEC than to its own retail customers. ISDN BRS results agree with the significant disparity found for ISDN BRS in Interval Zone One, as described in AZIWO2100 despite insufficient data for statistical findings. CGE&Y retested Qwest's provisioning of designed and non-designed ISDN BRS lines; however, no ISDN BRS lines in Interval Zone Two were retested.(See also, OP-4D.)

New Service Installation Quality OP-5

Measure Description:

OP-5 measures the percentage of new order installations that were trouble free within the first 30 calendar days following installation. This measure is reported for all products installed during the reporting period and the standard of comparison is parity with Qwest retail results.

Table 2.5.4.1bb – OP-5 – New Service Installation Quality					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
Business	87.85% n: 63645.5	98.90% n: 273	88.65% n: 4194.5	Parity d=-.251, rd=.000	Parity d=-.012, rd=.000
Centrex 21	83.02% n: 13506.5	100.0% n: 32	84.45% n: 379.5	Parity d=-.425, rd=.000	Parity d=-.019, rd=.000
DSO	33.49% n: 427	100.0% n: 60	See note #1	Parity d=-.954, rd=.000	See note #1
ISDN BRS	92.37% n: 2215	100.0% n: 32	100.0% n: 15	Parity d=-.280, rd=.006	Parity d=-.280, rd=.042
Megabit	94.52% n: 26488	100.0% n: 4	0.00% n: 3	Insuff Evid d=-.236, r0=.685, rd=.213	Disparity d=1.334, r0=.000
PBX	86.60% n: 1590	100.0% n: 24	82.09% n: 33.5	Parity d=-.375, rd=.003	Indeterminate -> P d=0.062, rd=.192
Residential	93.10% n: 939186	99.38% n: 320.5	92.96% n: 18278	Parity d=-.187, rd=.000	Parity d=0.003, rd=.000
Unbundled Loop ADSL	95.41% n: 20616	100.0% n: 2	86.67% n: 75	Insuff Evid d=-.216, r0=.622, rd=.299	Indeterminate -> DP d=0.158, r0=.119
Unbundled 2 Wire Analog	92.77% n: 1002831.5	98.07% n: 103.5	93.85% n: 8613.5	Parity d=-.133, rd=.000	Parity d=-.022, rd=.000
UNE-P (POTS)	92.77% n: 1002833	96.12% n: 335	94.71% n: 264.5	Parity d=-.074, rd=.000	Parity d=-.040, rd=.000

Note 1: The table cell is vacant due to no available data.

Findings:

Pseudo-CLEC results were in parity for all product disaggregations where sufficient data were available. Moreover, aggregate CLEC results were in parity for all products where sufficient data is available for definite parity/disparity determinations except one, Megabit, which is based on only three observations. Aggregate CLEC results for Unbundled Loop ADSL were indeterminate leaning towards disparity. Future commercial results will determine if the issues relating to Unbundled Loop ADSL have been resolved.

Delayed Days OP-6

Measure Description:

OP-6 measures the average number of days service installation is delayed beyond the scheduled due date. The average delayed days is considered for non-facility and facility reasons separately. Further disaggregations are the same as the other provisioning measures described above. The limited data available are due to high rates of appointments met by Qwest. The only products provided are those with missed due dates. The standard of comparison for this measure is parity with Qwest retail results. CGE&Y recalculated performance results for OP-6 based on the findings of AZIWO2130. (See FTRC Report, Section 4.4.)

Table 2.5.4.1cc – OP-6A-1 – Delayed Days for Non-Facility Reasons (Average Days) – Dispatches within MSAs (Y/MY)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
Business	Log: 2.50 Arith: 4.42 n: 777	Log: 1.74 Arith: 2.00 N: 4	Log: 3.32 Arith: 5.55 n: 67	Log: Indeterminate -> P d=-.338, rd=.107 Arith: Indeterminate -> P d=-.309, rd=.118	Log: Disparity D=0.284, r0=.013 Arith: Indeterminate -> DP d=0.144, r0=.129
Residential	Log: 2.23 Arith: 4.13 n: 1728	Log: 1.79 Arith: 2.00 N: 2	Log: 1.88 Arith: 2.75 n: 73	Log: Insuff. Evid. d=-.190, r0=.606, rd=.251 Arith: Insuff. Evid. d=-.280, r0=.654, rd=.212	Log: Parity D=-.148, rd=.000 Arith: Parity d=-.181, rd=.000
UNE-P (POTS)	Log: 2.31 Arith: 4.22 n: 2505	Log: 1.47 Arith: 1.60 N: 5	Log: 15.00 Arith: 15.00 n: 1	Log: Indeterminate -> P d=-.396, rd=.064 Arith: Indeterminate -> P d=-.341, rd=.081	Log: Disparity d=1.906, r0=.028 Arith: Indeterminate -> DP d=1.403, r0=.080

Findings:

Data was insufficient to make any determination for the Pseudo-CLEC, but the available data were indeterminate leaning towards parity for Business and UNE-P.

Aggregate CLEC data demonstrated parity for residential orders. However, data for business orders revealed that commercial CLECs were experiencing longer installation delays than retail customers. This was the subject of AZIWO2123. There was only one delayed dispatched business order during retest. The delay was only 1 day, as compared with an average of 5.5 (2.9 logarithmic mean) days for retail, which resulted in a leaning towards parity (rd=.125) conclusion.

UNE-P results for aggregate CLECs are based on only one observation. During the retest, there were three delayed UNE-P orders, with a logarithmic mean of 5.89 days as compared to 2.47 for retail, which yielded a leaning towards disparity ($d=.764$, $r0=.093$) conclusion.

Table 2.5.4.1dd – OP-6A-2 - Delayed Days for Non-Facility Reasons (Average Days) - Dispatches Outside MSAs (Y/MN)

Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
Business	Log: 2.34 Arith: 4.08 n: 73	See note #1	Log: 8.91 Arith: 14.50 n: 6	See note #1	Log: Disparity $d=1.447$, $r0=.000$ Arith: Disparity $d=1.423$, $r0=.000$
Residential	Log: 2.29 Arith: 4.74 n: 293	See note #1	Log: 1.00 Arith: 1.00 n: 2	See note #1	Log: Indeterminate -> P $d=-.600$, $rd=.106$ Arith: Indeterminate -> P $d=-.470$, $rd=.144$

Note 1: The table cell is vacant due to no available data.

Findings:

The Pseudo-CLEC experienced no delays for dispatches outside MSAs due to reasons other than a lack of facilities.

Despite having only six observations, it is clear from the commercial CLEC data that among business orders delayed for non-facility reasons, CLECs experienced longer installation delays than retail. This was the subject of AZIWO2123. There were no CLEC delayed dispatched Business services installations outside MSAs during the retest period.

Table 2.5.4.1ee – OP-6A-3 – Delayed Days for Non-Facility Reasons (Average Days) – No dispatches (N/MA)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
Business	Log: 2.42 Arith: 3.94 n: 274	Log: 3.00 Arith: 3.00 n: 1	Log: 1.83 Arith: 2.44 n: 48	Log: Insuff. Evid. d=0.219, r0=.413, rd=.474 Arith: Insuff. Evid. d=-.169, r0=.567, rd=.325	Log: Parity d=-.269, rd=.000 Arith: Parity d=-.271, rd=.000
Centrex 21	Log: 2.58 Arith: 4.11 n: 132	See note #1	Log: 2.00 Arith: 2.00 n: 1	See note #1	Log: Insuff. Evid. d=-.243, r0=.596, rd=.299 Arith: Insuff. Evid. d=-.440, r0=.669, rd=.235
Residential	Log: 2.53 Arith: 4.71 n: 1348	Log: 2.68 Arith: 4.60 n: 5	Log: 1.81 Arith: 2.48 n: 58	Log: Insuff. Evid. d=0.051, r0=.454, rd=.301 Arith: Insuff. Evid. d=-.013, r0=.511, rd=.253	Log: Parity d=-.292, rd=.000 Arith: Parity d=-.264, rd=.000
UNE-P (POTS)	Log: 2.51 Arith: 4.58 n: 1622	Log: 1.00 Arith: 1.00 n: 1	See note #1	Log: Indeterminate -> P d=-.761, rd=.148 Insuff Evid d=-.447, r0=.672, rd=.232	See note #1

Note 1: The table cell is vacant due to no available data.

Findings:

Pseudo-CLEC data quantities were insufficient, but these limited results show that Qwest met most Pseudo-CLEC due dates. In the few instances where the due dates were missed, the delay intervals were as short as for Qwest retail. Aggregate CLEC results supports these findings with intervals significantly shorter than Qwest retail for residential and business installations.

Table 2.5.4.1ff – OP-6A-4 – Delayed Days for Non-Facility Reasons (Average Days) –Interval Zone One (A/HY)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
Unbundled 2 Wire Analog	Log: 2.40 Arith: 4.39 n: 4034	See note #1	Log: 1.82 Arith: 3.00 n: 25	See note #1	Log: Parity d=-.247, rd=.004 Arith: Parity d=-.176, rd=.011

Note 1: The table cell is vacant due to no available data.

Findings:

Qwest did not miss any appointments for the Pseudo-CLEC in Interval Zone One for non-facility reasons. Qwest is providing commercial CLECs with parity service for Unbundled 2 Wire Analog.

Table 2.5.4.1gg – OP-6B-1 – Delayed Days for Facility Reasons (Average Days) – Dispatches within MSAs (Y/MY)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
Business	Log: 8.77 Arith: 15.22 n: 1179	Log: 5.81 Arith: 7.83 n: 6	Log: 7.07 Arith: 9.76 n: 17	Log: Indeterminate -> P d=-.353, rd=.060 Arith: Parity d=-.450, rd=.036	Log: Parity d=-.186, rd=.027 Arith: Parity d=-.332, rd=.006
Centrex 21	Log: 8.61 Arith: 14.39 n: 151	See note #1	Log: 13.00 Arith: 13.00 n: 1	See note #1	Log: Insuff Evid d=0.381, r0=.352, rd=.538 Arith: Insuff Evid d=-.088, r0=.535, rd=.355
Residential	Log: 7.67 Arith: 12.53 n: 4145	Log: 12.75 Arith: 16.33 n: 3	Log: 5.18 Arith: 7.63 n: 59	Log: Insuff Evid d=0.478, r0=.204, rd=.630 Insuff Evid d=0.289, r0=.308, rd=.503	Log: Parity d=-.359, rd=.000 Arith: Parity d=-.373, rd=.000

Note 1: The table cell is vacant due to no available data.

Findings:

Pseudo-CLEC data were insufficient for any parity/disparity determinations. Aggregate CLEC results demonstrated parity for Business and Residential delayed days for facility reasons among dispatched orders within MSAs.

Table 2.5.4.1hh – OP-6B-2 – Delayed Days for Facility Reasons (Average Days) - Dispatches outside MSAs (Y/MN)					
Product	Standard	Pseudo- CLEC Results	Aggregate CLEC Results	Pseudo- CLEC vs. Standard	Aggregate CLEC vs. Standard
Residential	Log: 11.22 Arith: 16.38 n: 709	See note #1	Log: 8.47 Arith: 10.33 n: 3	See note #1	Log: Indeterminate -> P d=-.290, rd=.160 Arith: Indeterminate -> P d=-.423, rd=.110

Note 1: The table cell is vacant due to no available data.

Findings:

Data were insufficient to make any determinations for Residential installations, the only product with data available. The limited results for aggregate CLECs, however, lean towards parity.

Table 2.5.4.1ii – OP-6B-3 - Delayed Days for Facility Reasons (Average Days) - No dispatches (N/MA)					
Product	Standard	Pseudo- CLEC Results	Aggregate CLEC Results	Pseudo- CLEC vs. Standard	Aggregate CLEC vs. Standard
Business	Log: 5.14 Arith: 10.30 n: 92	See note #1	Log: 6.00 Arith: 6.00 n: 1	See note #1	Log: Insuff Evid d=0.127, r0=.450, rd=.437 Arith: Insuff Evid d=-.280, r0=.610, rd=.287
Centrex 21	Log: 3.78 Arith: 7.15 n: 13	See note #1	Log: 7.00 Arith: 7.00 n: 1	See note #1	Log: Insuff Evid d=0.529, r0=.305, rd=.593 Arith: Insuff Evid d=-.015, r0=.506, rd=.386
Residential	Log: 4.02 Arith: 7.40 n: 588	See note #1	Log: 3.52 Arith: 4.40 n: 20	See note #1	Log: Parity d=-.111, rd=.041 Arith: Parity d=-.306, rd=.005

Note 1: The table cell is vacant due to no available data.

Findings:

Results demonstrate that commercial CLECs receive parity service for delayed days for facility reasons on non-dispatched residential orders. Qwest did not miss any commitments to the Pseudo-CLEC due to facility reasons when no dispatch was required.

Table 2.5.4.1jj – OP-6B-4 – Delayed Days for Facility Reasons (Average Days) – Interval Zone One (A/HY)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
ISDN BRS	Log: 10.69 Arith: 15.38 n: 66	Log: 9.86 Arith: 11.00 n: 2	See note #1	Log: Insuff Evid d=-.081, r0=.545, rd=.305 Arith: Indeterminate -> P d=-.382, rd=.176	See note #1
Unbundled 2 Wire Analog	Log: 7.38 Arith: 12.55 n: 5946	See note #1	Log: 4.17 Arith: 5.17 n: 6	See note #1	Log: Parity d=-.498, rd=.028 Arith: Parity d=-.536, rd=.022

Note 1: The table cell is vacant due to no available data.

Findings:

There were insufficient Pseudo-CLEC data for any parity determination. Results for Unbundled 2-Wire Analog indicated a large enough difference to conclude parity between aggregate CLECs and Qwest despite only six observations.

Table 2.5.4.1kk – OP-6B-5 – Delayed Days for Facility Reasons (Average Days) – Interval Zone Two (A/ HN)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
ISDN BRS	Log: 10.58 Arith: 13.95 n: 22	Log: 5.00 Arith: 5.00 n: 1	See note #1	Log: Indeterminate -> P d=-.865, rd=.130 Arith: Indeterminate -> P d=-.881, rd=.127	See note #1

Note 1: The table cell is vacant due to no available data.

Findings:

Qwest missed only one installation commitment for Pseudo-CLEC ISDN BRS orders in Interval Zone Two, insufficient for any parity determination.

Coordinated “Hot Cut” Interval OP-7

Measure Description:

OP-7 measures the average time to complete coordinated “hot cuts” of unbundled loops beginning with the “lift” time and ending with Qwest’s testing of the loop. This is a diagnostic measure with no established standard.

Table 2.5.4.1ll – OP-7 – Coordinated "Hot Cut" Interval (Hours:Minutes)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
Unbundled Analog	Diagnostic	Log: 0:03:49 Arith: 0:04:34 n: 14	Log: 0:03:36 Arith: 0:05:50 n: 6895	N/A	N/A

Findings:

No performance standards were available for this measure, therefore no findings are provided.

Coordinated Cuts On-Time OP-13

Measure Description:

OP-13A measures the percentage of coordinated cuts completed within one hour of the scheduled due time. The benchmark for this measure is 90 percent within an hour. OP-13B measures the percentage of coordinated cuts started without CLEC approval. This measure is diagnostic and for informational purposes only.

Table 2.5.4.1mm – OP-13A – Coordinated Cuts Completed on Time (Percent)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
Unbundled Analog	90%	100.0% n: 10	84.44% n: 2133	Pass	Fail

Findings:

All of the Pseudo-CLEC coordinated cuts were completed on time, exceeding the 90 percent benchmark. Aggregate CLEC results failed to meet the benchmark. However, this performance failure is associated with the future performance assurance process and is out of the scope of the Arizona 271 engagement.

Table 2.5.4.1nn – OP-13B – Coordinated Cuts Started Without CLEC Approval (Percent)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
Unbundled Analog	Diagnostic	0.00% n: 10	5.73% n: 2217	N/A	N/A

Findings:

No performance standard is available for this measure, therefore, no findings are possible.

Maintenance & Repair Services MR-All

Measures Description:

The approach for the Maintenance and Repair functionality test was designed to assess the functionality of access to Qwest systems for processing trouble reports from the Pseudo-CLEC. Per Section 7.3.1 of the TSD, CGE&Y provided test scripts introducing troubles for each product cell detailed in Section 9.1.2 of the TSD. In order to avoid jeopardizing the blindness of the test and distorting the results for several measures, CGE&Y limited the number of planned troubles to a reasonable amount for a similarly sized CLEC. The statistical evaluation of parity/disparity Maintenance and Repair services provided to competitors will be accomplished using commercial CLEC aggregate data where Pseudo-CLEC data are insufficient. In those cases where insufficient data exist for both the Pseudo-CLEC and commercial CLECs to make a definite determination of parity/disparity, CGE&Y combined results for a comparison against Qwest retail.

Out of Service Troubles Cleared Within 24 Hours MR-3

Measure Description:

MR-3 measures the percentage of out of service trouble reports that are cleared within 24 hours of receipt of a trouble report. Disaggregations are based on dispatch status and geographical areas as described in the

provisioning measures. The standard of comparison for this measure is parity with Qwest retail results.

Table 2.5.4.100 – MR-3A – Out of Service Cleared within 24 Hours (Percent) - Dispatches within MSAs (Y/ MY)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
Business	90.88% n: 24568	85.71% n: 7	92.61% n: 798	Insuff Evid d=0.081, r0=.318, rd=.380	Parity d=-.031, rd=.000
Residential	87.36% n: 203033	100.0% n: 5	92.70% n: 2837	Indeterminate -> P d=-.364, rd=.108	Parity d=-.090, rd=.000
UNE-P (POTS)	87.74% n: 227602	83.33% n: 6	85.37% n: 41	Insuff Evid d=0.063, r0=.371, rd=.357	Indeterminate -> P d=0.035, rd=.103

Findings:

Pseudo-CLEC results were insufficient for any determinations; however, aggregate commercial CLEC results demonstrate that parity service was provided for clearing out of service business and residential troubles within 24 hours for those that involved dispatches within an MSA.

Pseudo-CLEC UNE-P data were insufficient and aggregate CLEC results were indeterminate leaning towards parity. Due to the small number of UNE-P repair tickets available and the similarity of performance for those troubles within an MSA and outside an MSA, CGE&Y considers it appropriate to combine all Pseudo-CLEC and commercial CLEC dispatched UNE-P trouble tickets regardless of the geographical location for comparison with the appropriate retail comparative result. These results indicated a combined CLEC result of 86.79% cleared within 24 hours (46/53) as compared to a retail result of 87.58%. This comparison indicated a result of rd=.0429 which is a statistically significant finding of parity.

Therefore, based on the above analysis, CGE&Y finds that Qwest provides parity service for business and residential out-of-service conditions cleared within 24 hours requiring a dispatch in an MSA, and results suggest parity for UNE-P out of service conditions when results are aggregated for all CLECs and all dispatches.

Table 2.5.4.1pp – MR-3B – Out of Service Cleared within 24 Hours (Percent) – Dispatches Outside MSAs (Y/MN)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
Business	86.89% n: 2631	See note #1	100.0% n: 13	See note #1	Parity d=-.371, rd=.022
Residential	85.81% n: 19573	See note #1	96.36% n: 55	See note #1	Parity d=-.194, rd=.000
UNE-P (POTS)	85.93% n: 22204	100.0% n: 2	100.0% n: 4	Insuff Evid d=-.384, r0=.716, rd=.206	Indeterminate -> P d=-.384, rd=.123

Note 1: The table cell is vacant due to no available data.

Findings:

There were insufficient Pseudo-CLEC data for dispatches outside MSAs. Aggregate CLEC results demonstrate that parity service was provided in clearing out of service Business and Residential troubles involving dispatches outside MSAs within 24 hours. Pseudo-CLEC UNE-P data were insufficient and aggregate CLEC results were indeterminate leaning towards parity. As described in the findings for MR-3A, CGE&Y considers it appropriate to aggregate results for all CLECs and all dispatched repairs for UNE-P. The results of this analysis indicated 86.79% of CLEC out-of-service conditions were cleared within 24 hours (46/53) as compared to a retail result of 87.58%. This comparison indicated a result of rd=.0429 which is a statistically significant finding of parity. CGE&Y finds that Qwest provides parity service for business and residential out-of-service conditions cleared within 24 hours requiring a dispatch outside an MSA, and results suggest parity for UNE-P out-of-service conditions when results are aggregated for all CLECs and all dispatches.

Table 2.5.4.1qq – MR-3C – Out of Service Cleared within 24 Hours (Percent) - No dispatches (N/MA)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
Business	96.92% n: 7782	100.0% n: 2	97.27% n: 256	Insuff Evid d=-.177, r0=.600, rd=.321	Parity d=-.010, rd=.000
Residential	94.70% n: 41511	100.0% n: 2	97.32% n: 523	Insuff Evid d=-.232, r0=.631, rd=.289	Parity d=-.068, rd=.000
UNE-P (POTS)	95.05% n: 49293	80.00% n: 15	100.0% n: 17	Disparity d=0.239, r0=.004	Indeterminate -> P d=-.224, rd=.057

Findings:

UNE-P was the only disaggregation with sufficient data for the Pseudo-CLEC. Results show Qwest failed to provide the Pseudo-CLEC parity service for UNE-P troubles requiring no dispatch (Qwest failed to clear 3 out of 15 out of service conditions within 24 hours). This disparity was the subject of AZIWO1190. Aggregate CLEC UNE-P results were indeterminate leaning towards parity; however, all UNE-P troubles for the aggregate CLECs were cleared within 24 hours. Therefore, CGE&Y finds that Qwest's performance for clearing CLEC UNE-P out-of-service conditions within 24 hours when no dispatch was required is acceptable and recommends the use of commercial results to draw conclusions regarding future performance.

Results for the aggregate CLECs demonstrated parity service for the Business and Residential disaggregations.

Table 2.5.4.1rr – MR-3D – Out of Service Cleared within 24 Hours (Percent) –Interval Zone One (A/HY)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
Unbundled 2 Wire Analog	88.68% n: 236758	See note #1	98.23% n: 1525	See note #1	Parity d=-.210, rd=.000

Note 1: The table cell is vacant due to no available data.

Findings:

There were no data available for the Pseudo-CLEC within this disaggregation. Commercial CLECs received better service than retail,

as 98.23 percent of troubles were cleared within 24 hours versus 88.68 percent for Qwest retail customers.

Table 2.5.4.1ss – MR-3E - Out of Service Cleared within 24 Hours (Percent) - Interval Zone Two (A/HN)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
Unbundled 2 Wire Analog	86.92% n: 21309	See note #1	100.0% n: 1	See note #1	Insuff Evid d=-.370, r0=.651, rd=.287

Note 1: The table cell is vacant due to no available data.

Findings:

There was only one out of service condition in Interval Zone Two during the six-month test period for commercial CLECs and it was cleared on time. This was insufficient for any statistical finding.

All Troubles Cleared Within 48 Hours MR-4

Measure Description:

MR-4 measures the percentage of all trouble reports that are cleared within 48 hours of receipt of the trouble report. Disaggregations are the same as reported in MR-3. The standard of comparison for this measure is parity with Qwest retail results.

Table 2.5.4.1tt – MR-4A – All Troubles Cleared within 48 Hours (Percent) – Dispatches within MSAs (Y/MY)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
Business	97.49% n: 31135	100.0% n: 8	98.32% n: 1012	Indeterminate -> P d=-.159, rd=.190	Parity d=-.029, rd=.000
Residential	96.89% n: 261237	100.0% n: 7	98.62% n: 3405	Indeterminate -> P d=-.177, rd=.191	Parity d=-.060, rd=.000
UNE-P (POTS)	96.95% n: 292373	100.0% n: 9	95.74% n: 47	Indeterminate -> P d=-.176, rd=.162	Indeterminate -> P d=0.032, rd=.102

Findings:

All troubles were cleared within 48 hours for the Pseudo-CLEC. Moreover, aggregate CLECs also experienced very high rates of cleared troubles, meeting the parity standard for business and

residential and leaning towards parity for UNE-P. Due to the small number of UNE-P repair tickets available and the similarity of performance for those troubles within an MSA and outside an MSA, CGE&Y considers it appropriate to combine all Pseudo-CLEC and commercial CLEC dispatched UNE-P trouble tickets regardless of the geographical location for comparison with the appropriate retail comparative result. These results indicated a combined CLEC result of 96.77% (60/62) cleared within 24 hours as compared to the retail result of 96.75%. This comparison indicates a result of $rd=.0364$ which is a statistically significant finding of parity.

Therefore, based on the above analysis, CGE&Y finds that Qwest provides parity service for business and residential troubles cleared within 48 hours requiring a dispatch in an MSA, and results suggest parity for UNE-P troubles.

Table 2.5.4.1uu – MR-4B – All Troubles Cleared within 48 Hours (Percent) –Dispatches outside MSAs (Y/MN)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
Business	96.12% n: 3398	See note #1	100.0% n: 16	See note #1	Indeterminate -> P $d=-.198$, $rd=.079$
Residential	94.55% n: 25998	See note #1	96.83% n: 63	See note #1	Parity $d=-.057$, $rd=.008$
UNE-P (POTS)	94.73% n: 29396	100.0% n: 2	100.0% n: 4	Insuff Evid $d=-.232$, $r0=.631$, $rd=.290$	Insuff Evid $d=-.232$, $r0=.681$, $rd=.217$

Note 1: The table cell is vacant due to no available data.

Findings:

Results demonstrate parity for commercial CLECs for residential troubles cleared within 48 hours. In addition, all business troubles were cleared within 48 hours although no statistical finding is possible. UNE-P data for the Pseudo-CLEC and aggregate CLEC results were insufficient for any findings. However, as described in the findings for MR-4A, CGE&Y considers it appropriate to aggregate results for all CLECs and all dispatched locations. The results of this analysis indicated a combined CLEC result of 96.77% (60/62) cleared within 48 hours as compared to the retail result of 96.75%. This comparison indicated a result of $rd=.0364$ which is a statistically significant finding of parity. Therefore, CGE&Y finds that Qwest provides parity service for business and residential troubles cleared within 48 hours requiring a

dispatch outside an MSA, and results suggest parity for UNE-P troubles.

Table 2.5.4.1vv – MR-4C – All Troubles Cleared within 48 Hours (Percent) - No Dispatches (N/MA)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
Business	99.43% n: 19374	100.0% n: 2	99.40% n: 1004	Insuff Evid d=-.075, r0=.543, rd=.377	Parity d=0.002, rd=.000
Residential	99.31% n: 114320	100.0% n: 3	100.0% n: 1049	Insuff Evid d=-.083, r0=.557, rd=.346	Parity d=-.083, rd=.000
UNE-P (POTS)	99.33% n: 133694	100.0% n: 19	100.0% n: 31	Indeterminate -> P d=-.082, rd=.161	Indeterminate -> P d=-.082, rd=.103

Findings:

Data were insufficient for the Pseudo-CLEC for all disaggregations. However, all Pseudo-CLEC troubles not involving a dispatch were cleared within 48 hours. Commercial CLEC results were in parity with Qwest retail for both business and residential troubles. Pseudo-CLEC and commercial CLEC UNE-P troubles were all cleared within 48 hours. When these results were combined to yield a statistical result, the data remained insufficient (rd=.059). CGE&Y finds Qwest is providing service at an acceptable level since 100% of all CLEC troubles not requiring a dispatch were cleared within 48 hours.

Therefore, CGE&Y finds that Qwest provides parity service for business and residential troubles cleared within 48 hours and acceptable service levels for UNE-P troubles cleared within 48 hours where no dispatch is required.

Table 2.5.4.1ww – MR-4D - All Troubles Cleared within 48 Hours (Percent) - Interval Zone One (A/HY)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
Unbundled 2 Wire Analog	97.63% n: 365322	100.0% n: 9	99.67% n: 1527	Indeterminate -> P d=-.155, rd=.180	Parity d=-.097, rd=.000

Findings:

All Pseudo-CLEC troubles were cleared within 48 hours in Interval Zone One. In addition, commercial CLEC results were better than that which Qwest provided its own retail customers.

CGE&Y finds that Qwest provides parity service for Unbundled 2-Wire Analog troubles cleared within 48 hours in Interval Zone One.

Table 2.5.4.1xx – MR-4E – All Troubles Cleared within 48 Hours (Percent) - Interval Zone Two (A/HN)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
Unbundled 2 Wire Analog	95.69% n: 33375	See note #1	100.0% n: 1	See note #1	Insuff Evid d=-.209, r0=.584, rd=.357

Note 1: The table cell is vacant due to no available data.

Findings:

There was only one out-of-service condition in Interval Zone Two during the six-month test period for commercial CLECs and it was cleared on time. This was insufficient for any statistical finding.

All Troubles Cleared Within 4 Hours MR-5

Measure Description:

MR-5 measures the percentage of trouble reports for designed services that are cleared within four hours of receipt of the trouble ticket. This measure is reported by whether the service is located within Interval Zone One or Interval Zone Two. The standard of comparison for this measure is parity with Qwest retail results.

Table 2.5.4.1yy – MR-5A – All Troubles Cleared within 4 Hours (Percent) - Interval Zone One (A/HY)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
Unbundled 2 Wire Analog	41.51% n: 365322	100.0% n: 9	75.57% n: 1527	Parity d=-.871, rd=.000	Parity d=-.354, rd=.000

Findings:

All Pseudo-CLEC Unbundled 2-Wire Analog troubles were cleared within four hours in Interval Zone One demonstrating parity service. In addition, aggregate CLEC results were in parity for Unbundled 2-Wire Analog.

Table 2.5.4.1zz – MR-5B – All Troubles Cleared within 4 Hours (Percent) - Interval Zone Two (A/HN)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
Unbundled 2 Wire Analog	33.97% n: 33375	See note #1	100.0% n: 1	See note #1	Parity d=-.949, rd=.027

Note 1: The table cell is vacant due to no available data.

Findings:

There was only one trouble reported in Interval Zone Two during the six-month test period for commercial CLECs and it was cleared within 4 hours resulting in a parity finding. CGE&Y believes this parity finding is unreliable as it is based on only one observation. However, in the opinion of CGE&Y, when results of this disaggregation are considered together with results for MR-5A, the evidence demonstrates that Qwest is clearing troubles for Unbundled 2-Wire Analog loops within 4 hours regardless of zone designation for CLEC customers in parity with that which it provides its retail customers.

Mean Time to Restore MR-6

Measure Description:

MR-6 measures the average time for Qwest to restore service. Disaggregations are based on dispatch status and geographic areas as described in the provisioning measures. The standard of comparison for this measure is parity with Qwest retail results.

Table 2.5.4.1aaa – MR-6A – Mean Time to Restore (Hours:Minutes) - Dispatches within MSAs (Y/MY)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
Business	Log: 06:09 Arith: 11:01 n: 31135	Log: 6:16 Arith: 08:59 n: 8	Log: 06:00 Arith: 10:33 n: 1012	Log: Insuff Evid d=0.018, r0=.480, rd=.225 Arith: Indeterminate -> P d=-.133, rd=.118	Log: Parity d=-.021, rd=.000 Arith: Parity d=-.031, rd=.000
Residential	Log: 08:57 Arith: 14:26 n: 261237	Log: 10:46 Arith: 13:05 n: 7	Log: 07:22 Arith: 11:30 n: 3405	Log: Insuff Evid d=0.174, r0=.322, rd=.385 Arith: Indeterminate -> P d=-.090, rd=.160	Log: Parity d=-.184, rd=.000 Arith: Parity d=-.196, rd=.000
UNE-P (POTS)	Log: 08:36 Arith: 14:04 n: 292373	Log: 07:53 Arith: 11:57 n: 9	Log: 10:15 Arith: 15:00 n: 47	Log: Indeterminate -> P d=-.082, rd=.135 Arith: Indeterminate -> P d=-.141, rd=.100	Log: Indeterminate -> DP d=0.165, r0=.130 Arith: Indeterminate -> P d=0.062, rd=.063

Findings:

Based on commercial CLEC data, CGE&Y finds that Qwest provides parity time to restore service for business and residential troubles that require a dispatch within an MSA. For UNE-P troubles, commercial CLEC results were indeterminate leaning towards disparity. During the retest period, there were 357 dispatched commercial CLEC UNE-P restorals in an MSA with an average interval of 11:26:39 compared to the retail average of 13:45:12. This resulted in a determination of parity (d=-.247, rd=.000).

Table 2.5.4.1bbb – MR-6B – Mean Time to Restore (Hours:Minutes) – Dispatches outside MSAs (Y/MN)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
Business	Log: 09:16 Arith: 15:18 n: 3398	See note #1	Log: 08:56 Arith: 12:20 n: 16	See note #1	Log: Indeterminate -> P d=-.034, rd=.101 Arith: Parity d=-.177, rd=.032
Residential	Log: 10:54 Arith: 17:30 n: 25998	See note #1	Log: 08:23 Arith: 13:35 n: 63	See note #1	Log: Parity d=-.244, rd=.000 Arith: Parity d=-.221, rd=.000
UNE-P (POTS)	Log: 10:42 Arith: 17:15 n: 29396	Log: 07:19 Arith: 11:58 n: 2	Log: 07:53 Arith: 10:44 n: 4	Log: Indeterminate -> P d=-.352, rd=.184 Insuff Evid d=-.300, r0=.664, rd=.204	Log: Indeterminate -> P d=-.283, rd=.128 Arith: Indeterminate -> P d=-.369, rd=.095

Note 1: The table cell is vacant due to no available data.

Findings:

In all cases, CLEC average restoration intervals were shorter than Qwest retail intervals. Based on commercial CLEC data, CGE&Y finds that Qwest provides parity time to restore residential service requiring a dispatch outside an MSA. Results for business and UNE-P troubles were indeterminate leaning towards parity.

Table 2.5.4.1ccc – MR-6C – Mean Time to Restore (Hours:Minutes) - No dispatches (N/MA)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
Business	Log: 00:40 Arith: 03:45 n: 19374	Log: 01:46 Arith: 02:46 n: 2	Log: 00:54 Arith: 03:49 n: 1004	Log: Insuff Evid d=0.434, r0=.270, rd=.583 Arith: Insuff Evid d=-.083, r0=.547, rd=.301	Log: Parity d=0.131, rd=.000 Arith: Parity d=0.005, rd=.000
Residential	Log: 00:38 Arith: 05:15 n: 114320	Log: 00:42 Arith: 06:31 n: 3	Log: 00:47 Arith: 04:11 n: 1049	Log: Insuff Evid d=0.033, r0=.477, rd=.331 Arith: Insuff Evid d=0.121, r0=.417, rd=.388	Log: Parity d=0.080, rd=.000 Arith: Parity d=-.102, rd=.000
UNE-P (POTS)	Log: 00:38 Arith: 05:02 n: 133694	Log: 02:34 Arith: 07:13 n: 19	Log: 01:20 Arith: 02:59 n: 31	Log: Disparity d=0.522, r0=.011 Arith: Indeterminate -> DP d=0.204, r0=.187	Log: Indeterminate -> DP d=0.276, r0=.062 Arith: Parity d=-.191, rd=.004

Findings:

Non-dispatched UNE-P results revealed a disparity between the Pseudo-CLEC and Qwest retail. This disparity was the subject of AZIWO1191. Aggregate CLEC results were indeterminate but leaning towards disparity for UNE-P. CGE&Y analyzed commercial results for the retest period, September through October 2001. Results indicated that the mean time to restore commercial CLEC UNE-P lines were in parity with Qwest retail. However, this may be due to the reclassification of certain CLECs' business and Centrex 21 data as UNE-P. Excluding this data reduces the number of UNE-P repairs to 11, insufficient for any determination.

For business and residential troubles, aggregate commercial CLEC restoral intervals were demonstrated to be in parity with retail.

Table 2.5.4.1ddd – MR-6D – Mean Time to Restore (Hours:Minutes) - Interval Zone One (A/HY)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
Unbundled 2 Wire Analog	Log: 3:41:52 Arith: 11:16:25 n: 365322	Log: 1:09:31 Arith: 1:42:20 n: 9	Log: 1:35:40 Arith: 3:49:14 n: 1527	Log: Parity d=-.537, rd=.007 Arith: Parity d=-.662, rd=.002	Log: Parity d=-.389, rd=.000 Arith: Parity d=-.516, rd=.000

Findings:

Pseudo-CLEC and aggregate CLEC restoral intervals were significantly shorter than Qwest retail intervals for Unbundled 2-Wire Analog troubles.

CGE&Y finds that Qwest provides CLECs with parity mean time to restore for Unbundled 2-Wire Analog in Interval Zone One.

Table 2.5.4.1eee – MR-6E – Mean Time to Restore (Hours:Minutes) - Interval Zone Two (A/HN)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
Unbundled 2 Wire Analog	Log: 4:55:20 Arith: 14:09:35 n: 33375	See note #1	Log: 3:16:00 Arith: 3:16:00 n: 1	See note #1	Log: Insuff Evid d=-.193, r0=.577, rd=.316 Arith: Indeterminate -> P d=-.621, rd=.182

Note 1: The table cell is vacant due to no available data.

Findings:

There was only one out-of-service condition in Interval Zone Two during the six-month test period for commercial CLECs, insufficient for parity/disparity conclusions.

Repair Repeat Report Rate MR-7

Measure Description:

MR-7 measures the percentage of trouble reports that are repeated within 30 days. Disaggregations are based on dispatch status and geographical areas as described in the provisioning measures. The

standard of comparison for this measure is parity with Qwest retail results.

Table 2.5.4.1fff – MR-7A – Repair Repeat Report Rate (Percent) - Dispatches within MSAs (Y/MY)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
Business	18.39% n: 32249	0.00% n: 8	19.21% n: 1062	Parity d=-.443, rd=.030	Parity d=0.010, rd=.000
Residential	18.79% n: 273500	12.50% n: 8	15.55% n: 3518	Indeterminate -> P d=-.087, rd=.129	Parity d=-.043, rd=.000
UNE-P (POTS)	18.75% n: 305750	10.00% n: 10	16.00% n: 50	Indeterminate -> P d=-.126, rd=.076	Parity d=-.036, rd=.011

Findings:

For dispatches within MSAs, Pseudo-CLEC results were in parity or leaning towards parity for repair repeat report rate for all products. Moreover, commercial CLEC results were in parity for all products. CGE&Y finds that Qwest provides parity repeat repair report rates for business, residential, and UNE-P troubles requiring a dispatch in an MSA.

Table 2.5.4.1ggg – MR-7B – Repair Repeat Report Rate (Percent) - Dispatches outside MSAs (Y/MN)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
Business	19.91% n: 3481	See note #1	22.22% n: 18	See note #1	Indeterminate -> P d=0.028, rd=.181
Residential	17.43% n: 26752	See note #1	9.38% n: 64	See note #1	Parity d=-.119, rd=.000
UNE-P (POTS)	17.71% n: 30233	50.00% n: 2	0.00% n: 4	Indeterminate -> DP d=0.351, r0=.116	Indeterminate -> P d=-.434, rd=.097

Note 1: The table cell is vacant due to no available data.

Findings:

For dispatches outside MSAs, commercial CLEC residential trouble reports were repeated at rates demonstrated to be in parity with retail. Commercial CLEC results were indeterminate leaning towards parity for business troubles. There are insufficient data for any parity determination for UNE-P troubles. CGE&Y finds that Qwest provides parity repeat repair report rates for business and residential troubles requiring a dispatch outside an MSA.

Table 2.5.4.1hhh – MR-7C – Repair Repeat Report Rate (Percent) - No dispatches (N/MA)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
Business	22.90% n: 19374	0.00% n: 2	27.49% n: 1004	Indeterminate -> P d=-.499, rd=.146	Parity d=0.053, rd=.000
Residential	18.09% n: 114325	0.00% n: 3	16.21% n: 1049	Indeterminate -> P d=-.439, rd=.128	Parity d=-.025, rd=.000
UNE-P (POTS)	18.79% n: 133699	5.26% n: 19	19.35% n: 31	Parity d=-.217, rd=.008	Indeterminate -> P d=0.007, rd=.081

Findings:

Among non-dispatched trouble reports, Pseudo-CLEC UNE-P and commercial CLEC business and residential repeat rates demonstrated parity with Qwest retail. When UNE-P Pseudo-CLEC and aggregate CLEC results were combined, the comparison with retail were in parity (d=-0.065, rd=0.005).

Table 2.5.4.1iii – MR-7D – Repair Repeat Report Rate (Percent) - Interval Zone One (A/HY)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
Unbundled 2 Wire Analog	18.96% n: 376817	0.00% n: 9	20.37% n: 1527	Parity d=-.451, rd=.022	Parity d=0.018, rd=.000

Findings:

Both Pseudo-CLEC and aggregate CLEC Unbundled 2-Wire Analog Loop trouble repeat rates were demonstrated to be in parity with Qwest retail.

Table 2.5.4.1jjj – MR-7E – Repair Repeat Report Rate (Percent) - Interval Zone Two (A/HN)

Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
Unbundled 2 Wire Analog	17.65% n: 34047	See note #1	0.00% n: 1	See note #1	Insuff Evid d=-.434, r0=.678, rd=.258

Note 1: The table cell is vacant due to no available data.

Findings:

There was only one out of service condition in Interval Zone Two during the six-month test period for commercial CLECs, insufficient for parity/disparity conclusions.

Trouble Rate MR-8
Measure Description:

MR-8 measures the trouble reports as a percentage of total installed lines for a product group. The standard of comparison for this measure is parity with Qwest retail results.

Table 2.5.4.kkk – MR-8 – Trouble Rate					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
Business	1.31% n: 455712	0.60% n: 165	1.22% n: 6125	Parity d=-.037, rd=.000	Parity d=-.004, rd=.000
Centrex	0.29% n: 64960	0.00% n: 1	0.09% n: 729	Insuff Evid d=-.054, r0=.571, rd=.255	Parity d=-.025, rd=.000
Centrex 21	1.30% n: 156553	0.00% n: 70	0.97% n: 1033	Parity d=-.114, rd=.000	Parity d=-.016, rd=.000
DS0	1.08% n: 105380	0.00% n: 31	0.47% n: 992	Parity d=-.104, rd=.000	Parity d=-.036, rd=.000
DS1	2.73% n: 44796	See note #1	0.37% n: 6499	See note #1	Parity d=-.105, rd=.000
ISDN BRI	1.29% n: 25680	0.00% n: 29	0.09% n: 135	Parity d=-.114, rd=.000	Parity d=-.083, rd=.000
LIS	0.00% n: 8958	See note #1	0.02% n: 142009	See note #1	Parity d=0.013, rd=.000
PBX	0.12% n: 123280	0.00% n: 36	0.08% n: 2272	Parity d=-.035, rd=.001	Parity d=-.007, rd=.000
Residential	2.28% n: 2021356	0.59% n: 210	2.05% n: 26461	Parity d=-.074, rd=.000	Parity d=-.008, rd=.000
Unbundled Loop ADSL	1.88% n: 36984	0.00% n: 1	1.92% n: 13	Indeterminate ->P d=-.138, rd=.170	Parity d=0.001, rd=.014
Unbundled 2-Wire_Non-Loaded Loop	1.29% n: 25680	See note #1	1.44% n: 4054	See note #1	Parity d=0.007, rd=.000
Unbundled 4-Wire_Non-Loaded Loop	2.73% n: 44796	See note #1	2.50% n: 10	See note #1	Parity d=-.007, rd=.019
Unbundled Loop Analog	2.10% n: 2477069	See note #1	0.00% n: 13178	See note #1	Parity d=-.146, rd=.000
Unbundled Loop_DS1	2.73% n: 44796	See note #1	3.80% n: 82	See note #1	Parity d=0.030, rd=.000
Unbundled Loop_ISDN	1.29% n: 25680	See note #1	2.11% n: 2487	See note #1	Parity d=0.032, rd=.000
UNE-P (POT S)	2.10% n: 2477069	2.61% n: 139	2.03% n: 9755	Parity d=0.017, rd=.000	Parity d=-.003, rd=.000

Note 1: The table cell is vacant due to no available data

Findings:

Pseudo-CLEC results were in parity for all product disaggregations where data were available. Similarly, aggregate CLEC results were in parity for all product disaggregations.

Repair Appointments Met MR-9

Measure Description:

MR-9 measures the percentage of appointment dates and times for repair reports that are met. Disaggregations are based on dispatch status and MSA. The standard of comparison for this measure is parity with Qwest retail results.

Table 2.5.4.1III – MR-9A – Repair Appointments Met (Percent) - Dispatches within MSAs (Y/MY)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
Business	83.13% n: 32249	62.50% n: 8	83.05% n: 1062	Indeterminate -> DP d=0.236, r0=.060	Parity d=0.001, rd=.000
Residential	92.72% n: 273500	87.50% n: 8	96.02% n: 3518	Insuff Evid d=0.088, r0=.285, rd=.386	Parity d=-.072, rd=.000
UNE-P (POTS)	91.71% n: 305750	70.00% n: 10	74.00% n: 50	Disparity d=0.288, r0=.006	Disparity d=0.243, r0=.000

Findings:

Qwest failed to provide the Pseudo-CLEC and commercial CLECs with parity service for UNE-P repair appointments met. This disparity was the subject of AZIWO2125. Commercial CLEC results were in parity for UNE-P repair appointments during the retest. However, this may be due to the reclassification of certain CLECs' business and Centrex 21 data as UNE-P. Excluding these repair appointments makes commercial CLEC data insufficient for any determination.

Aggregate CLEC results for business and residential repair appointments met were demonstrated to be in parity with Qwest retail.

Table 2.5.4.1mmm – MR-9B – Repair Appointments Met (Percent) - Dispatches outside MSAs (Y/MN)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
Business	93.54% n: 3481	See note #1	94.44% n: 18	See note #1	Indeterminate -> P d=-.019, rd=.130
Residential	94.48% n: 26752	See note #1	96.88% n: 64	See note #1	Parity d=-.059, rd=.007
UNE-P (POTS)	94.37% n: 30233	50.00% n: 2	100.0% n: 4	Indeterminate -> DP d=0.546, r0=.106	Insuff Evid d=-.240, r0=.687, rd=.211

Note 1: The table cell is vacant due to no available data.

Findings:

For dispatches outside MSAs, aggregate CLEC residential results for repair appointments met were in parity with Qwest retail. In addition, CGE&Y finds that commercial CLEC results for percent business repair appointments met were indeterminate leaning towards parity. Pseudo-CLEC UNE-P results were indeterminate leaning towards disparity. Commercial CLEC data for dispatched UNE-P repair appointments met were insufficient for a parity determination.

Table 2.5.4.1nnn – MR-9C – Repair Appointments Met (Percent) - No dispatches (N/ MA)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
Business	97.17% n: 19374	100.0% n: 2	97.31% n: 1004	Insuff Evid d=-.169, r0=.595, rd=.325	Parity d=-.004, rd=.000
Residential	97.87% n: 114325	100.0% n: 3	98.28% n: 1049	Insuff Evid d=-.146, r0=.601, rd=.304	Parity d=-.015, rd=.000
UNE-P (POTS)	97.77% n: 133699	89.47% n: 19	100.0% n: 31	Disparity d=0.180, r0=.007	Parity d=-.150, rd=.047

Findings:

Pseudo-CLEC results for UNE-P revealed a disparity versus Qwest retail. This disparity was the subject of AZIWO2125. However, Qwest only missed 2 out of 19 UNE-P repair appointments for the Pseudo-CLEC and missed no repair appointments for the commercial

CLECs. Commercial CLEC results were in parity for UNE-P repair appointments during the retest. However, this may be due to the reclassification of certain CLECs' business and Centrex 21 data as UNE-P. If these repair appointments are excluded, commercial CLEC results indicate that Qwest met 10 of 11 repair appointments during the retest, which was in disparity with retail results. Qwest met all Pseudo-CLEC repair appointments for business and residential troubles, but data were insufficient for any determination. In addition, aggregate CLEC results demonstrated parity for business and residential troubles. Therefore, CGE&Y finds that Qwest is providing CLECs with parity levels for repair appointments met for business and residential troubles.

Customer and Non-Qwest Related Trouble Reports MR-10

Measure Description:

MR-10 measures the percentage of all trouble reports that were customer related. This is a diagnostic measure and included for informational purposes only. Planned troubles generated as part of the M&R functionality test were excluded from this measure.

Table 2.5.4.1000 – MR-10 – Customer-Related Trouble Reports (Percent)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
Business	Diagnostic	23.08% n: 13	41.67% n: 3573	N/A	N/A
Residential	Diagnostic	47.37% n: 19	37.86% n: 7453	N/A	N/A
UNE-P (POTS)	Diagnostic	29.41% n: 17	42.95% n: 149	N/A	N/A
Unbundled 2 Wire Analog	Diagnostic	50.00% n: 18	32.06% n: 2249	N/A	N/A

Findings:

No performance standards were available for this measure, therefore no findings are provided.

Time to Provide Recorded Usage Records BI-1

Measure Description:

BI-1 measures the average time interval from the date of recorded daily usage to the date usage records are transmitted to the CLEC. This measure is reported for UNE and resale usage combined and the standard for comparison is parity against Qwest retail results.

Table 2.5.4.1ppp – BI-1A – Time to Provide Recorded Usage Records (Days)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
UNE & Resale	Log: 2.98 Arith: 5.98 n: 136844015	Log: 1.48 Arith: 2.12 n: 14043	Log: 1.43 Arith: 1.85 n: 4827061	Log: Parity d=-.576, rd=.000 Arith: Parity d=-.257, rd=.000	Log: Parity d=-.603, rd=.000 Arith: Parity d=-.276, rd=.000

Findings:

Pseudo-CLEC and commercial CLEC results for time to provide UNE and resale usage records demonstrated parity with Qwest retail results. Qwest provided CLECs with UNE and resale usage records in half the time it provided to its own retail operations.

Invoices Delivered Within 10 Days BI-2

Measure Description:

BI-2 measures the percentage of invoices that are delivered to the CLEC within 10 days of the bill date. This measure is reported for UNE and resale usage combined and the standard for comparison is parity against Qwest retail results.

Table 2.5.4.1qqq – BI-2 – Invoices Delivered Within 10 Days (Percent)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
UNE & Resale	99.98% n: 137073	92.56% n: 5755	100.0% n: 73164	Disparity d=-.262, r0=.000	Parity d=-.011, rd=.000

Findings:

Based on Qwest adhoc data, Pseudo-CLEC and commercial CLEC results for UNE and resale invoices delivered within 10 days of the bill date were in parity with Qwest retail results. However, based on the results of CGE&Y's data reconciliation of Qwest adhoc and Pseudo-CLEC collected data, CGE&Y found that Qwest's BI-2 adhoc data was not correctly reflecting the time to provide standard electronic bills. The reconciliation proved that Pseudo-CLEC February electronic CRIS bills were not delivered within 10 days of the bill date as described in the Qwest adhoc BI-2 data; rather, they were delivered in July. This discrepancy was described in AZIWO1211. Therefore, CGE&Y recalculated Pseudo-CLEC performance results for BI-2 reflecting the actual bill received date for the invoices associated with the February electronic CRIS bills. The results of BI-2 using corrected data, indicated that Pseudo-CLEC results were in disparity with Qwest retail. However, this disparity finding was due entirely to the manual error that caused the February electronic CRIS bills to be sent late. Qwest has implemented a fix, and this problem has not reoccurred. Therefore, CGE&Y finds that the disparity found for BI-2 no longer exists, and Qwest is providing industry standard electronic bills within 10 days of the bill date in parity with Qwest retail results.

Billing Accuracy BI-3

Measure Description:

BI-3 measures the percentage of billed revenue that is billed correctly on bills rendered during the reporting period. This measure is reported for UNE and resale usage combined and the standard for comparison is parity against Qwest retail results.

Table 2.5.4.1rrr - BI-3 – Billing Accuracy – Adjustments for Errors (Percent)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
UNE & Resale	99.40% n: 8314961	99.94% n: 148434	99.94% n: 224896	Parity	Parity d=-.054, rd=.000

Findings:

Pseudo-CLEC and commercial CLEC results demonstrated parity for billing accuracy with Qwest retail results for UNE and resale.

Billing Completeness BI-4

Measure Description:

BI-4 measures the percentage of recurring and non-recurring charges associated with completed service orders that appear on the correct bill (next available bill). This measure is reported for UNE and resale usage combined and the standard for comparison is parity against Qwest retail results.

Table 2.5.4.1sss - BI-4 – Billing Completeness (Percent)					
Product	Standard	Pseudo-CLEC Results	Aggregate CLEC Results	Pseudo-CLEC vs. Standard	Aggregate CLEC vs. Standard
UNE & Resale	97.92% n: 2333627	97.09% n: 1304	99.26% n: 65082	Parity d=.027, rd=.000	Parity d= -.059, rd=.000

Findings:

Pseudo-CLEC and commercial CLEC results for UNE and resale bill completeness demonstrated parity with Qwest retail results. However, based on the results of CGE&Y's data reconciliation of Qwest adhoc and Pseudo-CLEC collected data, CGE&Y found that Qwest's BI-4 adhoc data was not correctly reflecting percentage of recurring and non-recurring charges associated with completed service orders that appear on the correct bill (next available bill). The reconciliation proved that additional orders were not being billed on the next available bill as reported in Qwest's adhoc data. This was described in AZIWO1214. Qwest acknowledged it was not calculating the measure appropriately and instituted a fix on December 11, 2001. The results provided for the Pseudo-CLEC are based on the findings of AZIWO1214. CGE&Y analyzed historical data and validated that the fix corrected the previously observed problem. Therefore, CGE&Y finds that future commercial results can be relied on to evaluate performance for this measurement.

2.5.4.2 Performance Measurement Test Exit Criteria

Prior to exiting the Functionality Performance Measurement Evaluation, the following exit criteria had to be met:

Criterion	Completed
CGE&Y has analyzed all of the collected data.	✓
Declaration of either Parity/Compliance or Disparity/Noncompliance for all measurements detailed in MTP Appendix C.	✓
Incident Report Submitted to TAG for all Disparity / Noncompliance declarations.	✓
All Performance Measures have passed; and/or all parties agree the test is concluded; and/or the ACC calls an end to the test.	✓

3. Retail Parity Evaluation

The purpose of the Retail Parity Evaluation (RPE) was to determine whether a CLEC representative, using Qwest OSS interfaces, can provide a level of service and experience that is substantially the same in time and manner as that which a Qwest representative can provide using internal Qwest OSS interfaces.

This report summarizes the activities conducted during the RPE. The specific OSS interfaces available to CLECs that were evaluated are:

- Interconnect Mediated Access – Graphical User Interface (IMA-GUI)
- Electronic Data Interchange (EDI)
- Electronic Bonding – Trouble Administration (EB-TA)

All of the above forms of OSS access are classified by Qwest as “Interconnect Mediated Access” because they do not provide a direct link to OSS functions; all incoming transactions undergo mediation processes once they pass through the Qwest firewall in order to be routed to the appropriate back-end systems.

- The IMA-GUI system is a proprietary Qwest system specifically designed by Qwest for CLECs to access Qwest’s ordering systems. The CLEC experience when using this system is almost entirely dependent upon design considerations and system architecture decisions made by Qwest.
- EDI is an international standard for the interchange of business data between trading partners. Qwest defines the application data elements and transactions that are unique to its business, and it is the responsibility of the CLECs to design their own front-end systems to capture information and translate it into the data elements and transactions defined by Qwest. Once those data elements reach Qwest and are accepted by the mediation process, however, they feed into the same systems used by IMA-GUI and Qwest’s own retail systems.
- EB-TA is a system specifically set up between Qwest and certain trading partners for the performance of M&R functions by those trading partners.

Approach

The RPE examined the following OSS functionality and business processes:

- IMA-GUI Pre-Order/Order
- IMA-GUI M&R
- EDI Pre-Order/Order
- EB-TA M&R

The following transactions were evaluated within the areas mentioned above:

Transaction	Order		Type		M&R
	New	Change	Suspend / Restore	Conv / Win Back	
Address Validation	X	X	X	X	
CSR Validation		X	X	X	
TN Selection	X				
Service Availability	X	X			
Facility Availability	X				
Appointment Scheduler	X	X			
Create and Submit LSR/order	X	X	X	X	
Open Trouble Report					X
Retrieve Circuit/Trouble History					X
Perform MLT					X
Status Trouble					X

The approach of the RPE was modified from the methodology outlined in the TSD and the MTP with the concurrence of the ACC and DCI. The RPE was performed in two phases. In Phase I, 36 various pre-order/order test cases and 8 additional iterations of the “conversion of a small business POTS customer” test case were executed. The results of Phase I were used to identify areas of concentration for Phase II, and to determine the number of iterations required for a statistically relevant test.²⁸ Analysis of Phase I results identified 96 test cases for execution during Phase II.

Paired resale and retail test scripts²⁹ were developed from the test cases identified in the Arizona 271 MTP. Each resale test script had a corresponding retail test script enabling a comparison between IMA-GUI, EDI, and EB-TA and the equivalent retail systems. Each paired test script was given the same case description. The case descriptions included:

- addresses in the same wire centers
- the same number of lines
- the same account type (Residence or Business)
- the same service type (e.g., POTS, ISDN-BRI)
- the same service attributes (e.g., number of lines, features)
- the same activity (e.g., New Connect, Change, Conversion/Win back)

Each test script executed only those pre-order and order transactions applicable to the test case description.

In order to control the execution of the RPE test, each script contained step-by-step instructions to the service representative for data entry, collection of screen prints, and performing and collecting requested transaction timings. CGE&Y performed on-site monitoring³⁰ of the retail service representative and the resale service representative during

²⁸ CGE&Y Archive File: RPE #1 - Variable Iterations Proposal 6/2000 & RPE Phase II Testing Executive Summary

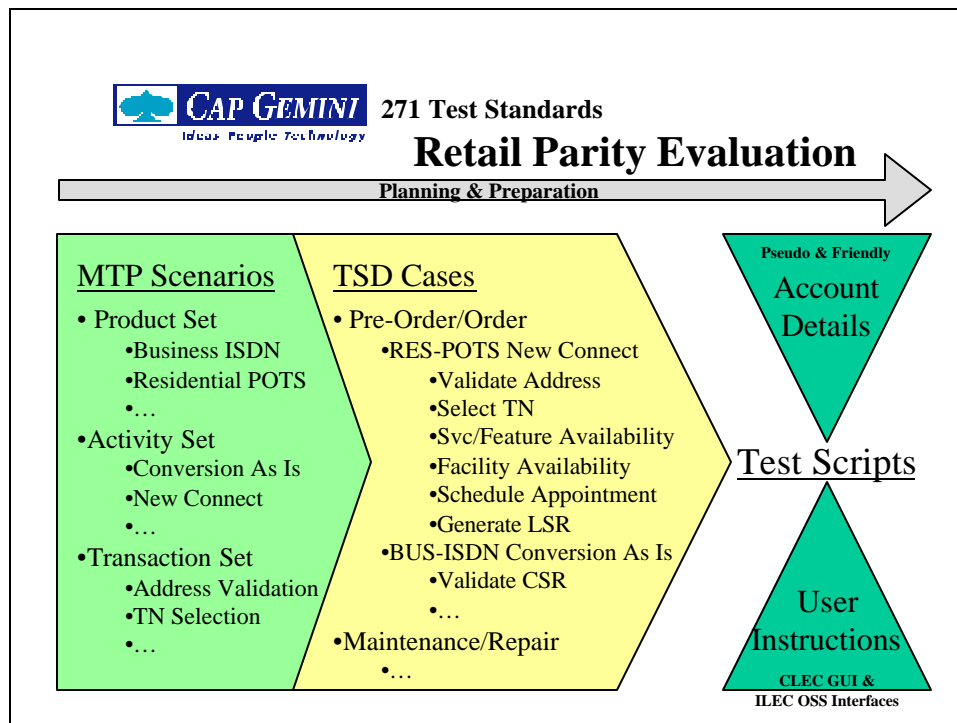
²⁹ CGE&Y Archive File: RPE #2 - Test Script Examples

³⁰ CGE&Y Archive File: RPE #3 - On-Site Test Administrator Monitor Instructions

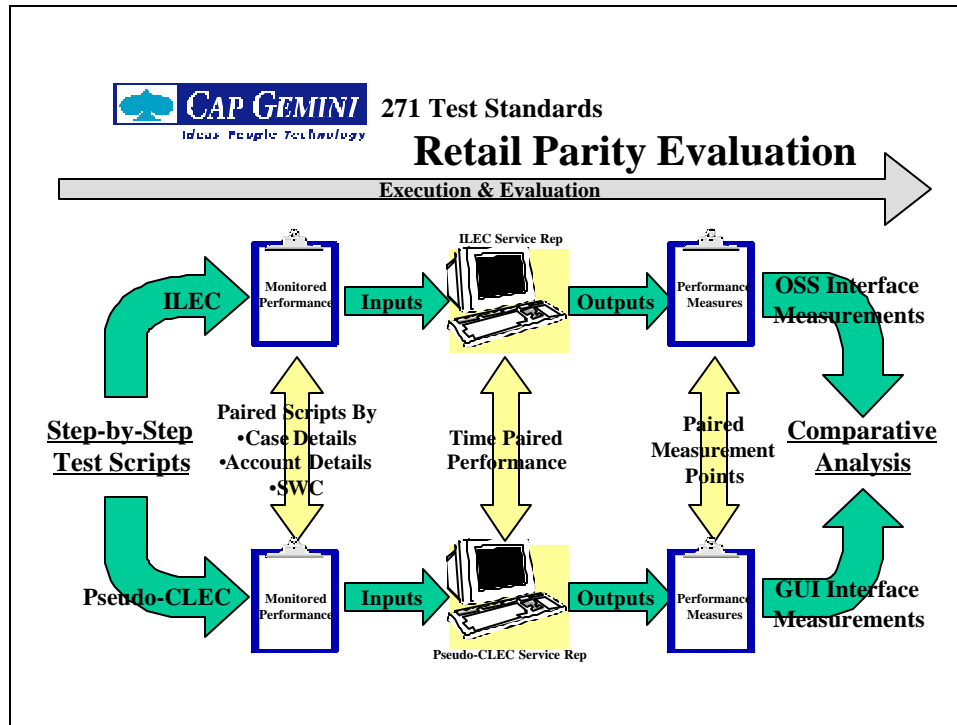
the execution of each test script. The execution of paired test scripts was synchronized so that both the retail and resale activities requested by the scripts occurred during the same morning/afternoon hours of the same business day.³¹

Qualitative measures were used where an exact means of comparison was not possible. Quantitative measures were used where "apples-to-apples" comparisons of data elements were possible. Timeliness measures were used where measurable elapsed timeframes were available. Measures included query response times, quality of information provided, and number of steps required to complete the transaction.

The RPE measured equivalent resale/retail access to Qwest's OSS, including the time and effort required to complete transactions and the overall experience of submitting an order or performing M&R functions. Therefore, orders were only required to pass through the OSS until the receipt of a FOC – resale, or until acceptance by the SOP - retail. Orders submitted during testing were cancelled prior to provisioning.



³¹ CGE&Y Archive File: RPE #4 - P-I & P-II Test Schedules



3.1 IMA-GUI Pre-Order/Order

3.1.1 Introduction

The IMA-GUI pre-order/order evaluation was structured to evaluate the mechanized service request capability available to a CLEC representative (resale) using Qwest OSS interfaces and that available to a Qwest representative (retail) using the equivalent internal Qwest OSS interfaces when performing similar activity. The evaluation compared a CLEC's ability to process pre-order queries and submit LSRs with the Qwest retail equivalent transactions. The orders submitted during testing were cancelled prior to any provisioning. Following the MTP/TSD, the terms "pre-order" and "order" were used for the purposes of this evaluation and are used throughout this document. It must be pointed out that, unlike resale, Qwest retail ordering activities do not distinguish between pre-order and order transactions; for Qwest the two are combined into order transactions.

3.1.2 Scope

The test included the following pre-order/order transactions for evaluation:

Transaction	Order		Type	
	New	Change	Suspend / Restore	Conv / Win Back
Address Validation	X	X	X	X
CSR Validation		X	X	X
TN Selection	X			
Service Availability	X	X		
Facility Availability	X			
Appointment Scheduler	X	X		
Create and Submit LSR/order	X	X	X	X

The evaluation methods for the pre-order/order transactions are explained below:

- ❑ Address Validation: query response times, quality of information provided, and number of steps required to complete the query were observed, documented, and compared between Qwest retail interfaces and IMA-GUI
- ❑ Customer Service Record (CSR) Validation: IMA-GUI query response times, quality of information provided, and number of steps required to complete the query were observed and documented
- ❑ Telephone Number (TN) Selection: query response times, quality of information provided, and number of steps required to complete the query were observed, documented, and compared between Qwest retail interfaces and IMA-GUI
- ❑ Service Availability: IMA-GUI query response times, quality of information provided, and number of steps required to complete the query were observed and documented
- ❑ Facility Availability: query response times, quality of information provided, and number of steps required to complete the query were observed, documented, and compared between Qwest retail interfaces and IMA-GUI
- ❑ Appointment Scheduler: query response times, quality of information provided, and number of steps required to complete the query were observed, documented, and compared between Qwest retail interfaces and IMA-GUI
- ❑ Create and Submit Local Service Request (LSR)/order: the extent of pre-order to order integration and the number of steps and fields required to

complete and submit an LSR was compared between IMA-GUI and the functional retail equivalents

3.1.3 Process

The scope of the RPE was modified from the methodology outlined in the TSD and the MTP with the concurrence of the ACC and DCI. The RPE test was performed in two phases. In Phase I, 36 various pre-order/order test cases and 8 additional iterations of one (conversion of a small business POTS customer) test case were executed.³²

- Phase I test results identified areas of focus for Phase II.
- Results of the “conversion of a small business POTS customer” test case were used to obtain timeliness measure variation ranges.

As a result of the analysis performed on Phase I test data,³³ detailed in Section 3.1.4, “Results,” 96 additional test cases were identified for execution during Phase II.³⁴

For both phases, test cases for pre-order and order on which qualitative, quantitative and timeliness measures could be collected were taken from a subset of the test scenarios identified in Appendix A of the MTP.

Paired resale and retail test scripts were developed from the test cases.³⁵ Each resale test script had a corresponding retail test script, enabling a comparison between IMA-GUI and the equivalent retail systems. Each paired test script was given the same case description. The case descriptions included:

- addresses in the same wire centers
- the same number of lines
- the same account type (Residence or Business)
- the same service type (e.g., POTS, ISDN-BRI)
- the same service attributes (e.g., number of lines, features)
- the same activity (e.g., New Connect, Change, Conversion/Win back)

Each test script executed only those pre-order and order transactions applicable to the test case description.

In order to control the execution of the RPE test, each script contained step-by-step instructions to the service representative for data entry, collection of screen prints, and performing and collecting requested transaction timings. CGE&Y monitored, on-site, the retail service representative and the resale service

³² CGE&Y Archive File: RPE #5 - P-I Test Scripts

³³ CGE&Y Archive File: RPE #1 - Variable Iterations Proposal 6/2000 & RPE P-II Testing Executive Summary

³⁴ CGE&Y Archive File: RPE #6 - P-II Cells

³⁵ CGE&Y Archive File: RPE #2 - Test Script Examples

representative during the execution of each test script. The timing of paired test script execution was synchronized so that both the resale and retail activities required by the scripts occurred during the same morning/afternoon hours of the same business day.

Qualitative measures were used where an exact means of comparison was not possible. Quantitative measures were used where "apples-to-apples" comparisons of data elements were possible. Timeliness measures were used where measurable elapsed timeframes were available. Measures included query response times, quality of information provided, and number of fields and steps required to complete the transaction.

Transactions applicable to each test case description were performed. All three measures were applied to applicable transactions performed during paired resale and retail test script execution.

The following MTP and TSD entrance criteria were met prior to commencing the IMA-GUI pre-order/order test:

Criterion	Completed
The Pseudo-CLEC received Readiness Certification from Qwest.	✓
Qwest and the Pseudo-CLEC interfaces and systems (IMA-GUI and retail equivalent) were operational and stable.	✓
CGE&Y was granted access to the appropriate Qwest site(s) to conduct the on-site testing and monitoring. This included the creation of security badges and access to facilities and equipment that would permit controlled observation of Qwest service representative pre-order and order activities.	✓
CGE&Y was granted access to the appropriate Pseudo-CLEC site(s) to conduct the on-site testing and monitoring. This included the creation of security badges to secure locations and access to private test performance monitoring facilities and equipment whenever available.	✓
A Daily Test Order Monitoring Schedule was created by CGE&Y.	✓
CGE&Y members responsible for on-site monitoring were provided with on-site telephone access for use in communication with other CGE&Y members.	✓
Retail Parity test scripts were created by CGE&Y.	✓

Criterion	Completed
The Pseudo-CLEC's ability to collect data during performance of CGE&Y provided test scripts was verified.	N/A*
CGE&Y's ability to access test data collected by the Pseudo-CLEC during performance of CGE&Y provided test scripts was verified.	N/A*
Valid account data were received from Qwest.	✓
Test data elements that define the Pseudo-CLEC for purposes of permitting interface activities with Qwest were populated in the necessary databases.	✓
The number of test iterations was identified.	✓
Test cases and iterations that were to be used to perform the evaluations were completed and available.	✓

3.1.4 Results

Phase II successfully executed 95 of the 96 scheduled paired test scripts. A failed address validation for one resale test script was included in AZIWO1047-1 and that specific pair of test scripts was not re-scheduled. Qwest's response to the IWO identified that the address was entered incorrectly; CGE&Y concurred.

CGE&Y evaluated the quantity of pre-order and order transactions and found that the average number of required fields for resale was greater than the number of required fields for retail for simple POTS services (the reverse was true for complex services). The average number of steps required was consistently more for resale than for retail for all services tested. The greater numbers of fields and steps were the subject of AZIWO1111. The Retail Parity re-evaluation determined that only 15% of the fields required for POTS were manual entry for CLECs. AZIWO1111 was closed on this basis. CGE&Y's evaluation of the total pre-order query response times finds that across the scenarios, resale response times were substantially and, statistically significantly longer than for retail.³⁶ This was the subject of AZIWO1110. The Retail Parity re-evaluation eliminated the http timing delays and showed that the resale and retail experiences were substantially similar. AZIWO1110 was closed on this basis.

The fact that both resale and retail businesses use the same back-end systems to process queries and order transactions is significant. The architecture put in

* CGE&Y Test Monitor collected data

³⁶ CGE&Y Archive File: RPE #7 - P-II Data Summary

place to allow CLECs to access Qwest back-end systems is, in CGE&Y's opinion, a necessary step to preserve the integrity and security of these systems. Moreover, the architecture was found to be sound and reasonably consistent with other models used in the business-to-business and third party trading partner software industry. While CGE&Y feels that it may be possible for Qwest to make the mediation process for these interfaces faster and more efficient, it finds that some transactional delay over and above that of comparable retail systems is reasonable and that such delays do not necessarily imply that CLECs do not have a meaningful opportunity to compete.

The key quantitative, qualitative and timeliness questions answered by the RPE are addressed in the sections that follow.

3.1.4.1 Timing Measurements

This section will focus on the statistical analysis of the Phase II RPE pre-order query response timings. These timings are the total response time for all pre-order query activities associated with each test script. The timings are therefore the sums of several individual query timings, and the number of timings per test script differs between resale and retail and for different order types and services. The following table illustrates this relationship:

Service Group	Order Type	Number of timings	
		Retail	Resale
POTS	NEW	7	5
POTS	CHNG	4	2
POTS	CONV	9	2
ISDN	NEW	4	5
ISDN	CHNG	1	4
ISDN	CONV	3	4
CNTX	NEW	4	6
CNTX	CHNG	2	4
CNTX	CONV	1	4
PBX	NEW	4	4
PBX	CONV	1	4
PVT LINE	CONV	2	5

Each original timing result start time was arrived at by submitting a query as nearly as possible to the instant when the computer's clock switched to the next second. The finish time was the reading on the clock when the response was noted. If, for example, a query was submitted at 10:31:00 and the system clock read 10:31:03 when the response was noted, the timing would be recorded as 3 seconds. However, the actual elapsed time could have been anywhere from 3.00 to 3.99 seconds. Therefore, on average, the individual timing recordings are half a second shorter than the actual timings. Although this is equally true for both resale and retail individual timings, the total of all pre-order timings will be affected differently between resale and retail due to the different number of timings involved. For example, a retail POTS conversion involves nine pre-order timings, whereas a resale POTS conversion only involves two pre-order timings. This means the recorded elapsed time understates the true elapsed time by (on average) 4.5 seconds for retail and 1 second for resale. To perform a proper comparison, CGE&Y corrected for these biases before taking logarithms of the elapsed times. Then CGE&Y performed its analyses on the difference in the logarithms of the corrected elapsed times.

A similar process was followed in Phase I. In Phase I, most scenarios were performed only once, so it was only possible to evaluate sample size requirements for the various scenarios by "clumping" together those scenarios which are logically similar, had similar effects (differences in logarithms of corrected elapsed times), and had reasonably low standard deviations of effects. The table below illustrates the clumps which resulted from this process:

Bus Or Res	Order Type	Features	Service	n	resale_t (secs)	retail_t (secs)	effect	std_d_log_t	ratio	Suggested n	Detectable Effect	Phase II Scenarios	# of Phase II tests
RES	CHNG	Y	POTS	5	99	1	4.60	1.32	99.9	8	285%	A	8
BUS	(all)	(all)	PBX	3	33	3	2.61	0.50	13.6	4	161%	R,S	4
BUS	(all)	N	CTX	3	43	5	2.36	1.83	10.6	12	315%	O,P,Q	12
BUS	CHNG	Y	(all)	4	20	3	2.20	1.43	9.0	12	221%	E,N	7
(all)	NEW	N	(all)	5	118	39	1.61	1.27	5.0	12	186%	C,H,J,L,P,R	21
(all)	NEW	N	ISDN	2	185	57	1.42	0.54	4.1	4	180%	J,L	4
(all)	CHNG	N	ISDN	2	12	6	1.06	1.31	2.9	4	739%	K	4
(all)	CHNG	N	(all)	3	12	7	0.80	1.03	2.2	12	141%	B,F,K,O	20
BUS	(all)	N	PvtLine	2	31	36	0.15	0.53	1.2	4	175%	T	4
(all)	CONV	N	ISDN	3	25	75	(1.15)	0.35	.32	4	103%	M	4
(all)	NEW	Y	POTS	6	56	229	(1.38)	0.29	.25	4	82%	G	4
BUS	CONV	Y	POTS	9	17	185	(2.15)	0.76	.12	12	97%	I	12
RES	CONV	Y	POTS	3	19	770	(3.55)	1.30	.03	8	279%	D	8
										100	SubTotal		112
										8	Dups	J,K,L,O,P,R	18
										92	Total Phase II Sample Size		94

Each Phase I scenario constitutes a unique combination of Market (Bus / Res), Order Type (New / Change / Conversion), Features (Y/N), and Service (POTS / ISDN / Centrex / PBX / Private Line). Several of the clumps in the above table have “(all)” for one or more of these factors. For instance, the third row, labeled “BUS (all) N CTX,” clumps together all Business market Centrex orders, without regard to whether they were New Connect, Change, or Conversion orders.

The other columns are explained as follows:

n:	Number of iterations
Resale_t (secs):	Total resale response time in seconds (after each individual query time increased by .5 seconds as described above) averaged over all iterations
Retail_t (secs):	Total retail response time in seconds (after each individual query time increased by .5 seconds as described above) averaged over all iterations
effect:	Average difference in the logarithms of resale_t and retail_t
std_d_log_t:	Standard deviation of difference in logarithms of resale_t and retail_t
ratio:	Antilog of effect. Can be approximately interpreted as the ratio of resale_t / retail_t
Suggested n:	Suggested Phase II sample size for this clump which would enable detection of a difference at least as large as observed in Phase I (assuming same variance). If the underlying difference in log response times is as large as was observed in Phase I, using a sample size

	as large as this suggested sample size will ensure that there will be no greater than a 5% chance of concluding that there is parity of service
Detectable Effect	The effect detectable using the suggested sample size. For example, 300% indicates a situation where CLEC response times are four times as long as retail
Phase II Scenarios:	Which actual Phase II scenarios correspond to this clump
# of Phase II tests	The number of Phase II tests actually performed which would fall in this clump

The variables, which most distinguish the clumps from each other, are Service and Order Type. Figures 3.1.4.1a and 3.1.4.1b illustrate the relationship of the difference in Phase I log response times to Service and Order Type, respectively.

Figure 3.1.4.1a: Phase I Total Response Time — Resale vs Retail by Service

Each point is a test case result: horizontal axis value is the retail result, vertical axis value is Resale result
 Diagonal Line indicates parity performance
 Points above and to the left of diagonal indicate test cases with longer Resale response times than Retail
 Points below and to the right of diagonal indicate test cases with shorter Resale response times than Retail

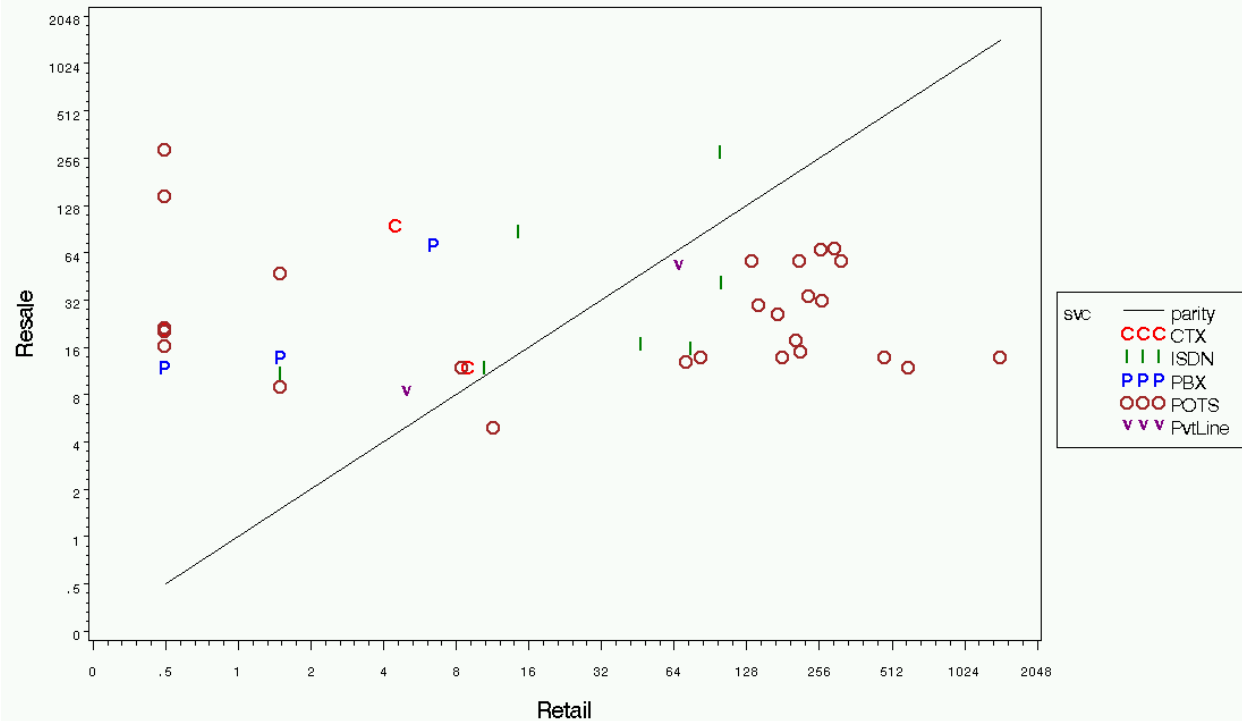
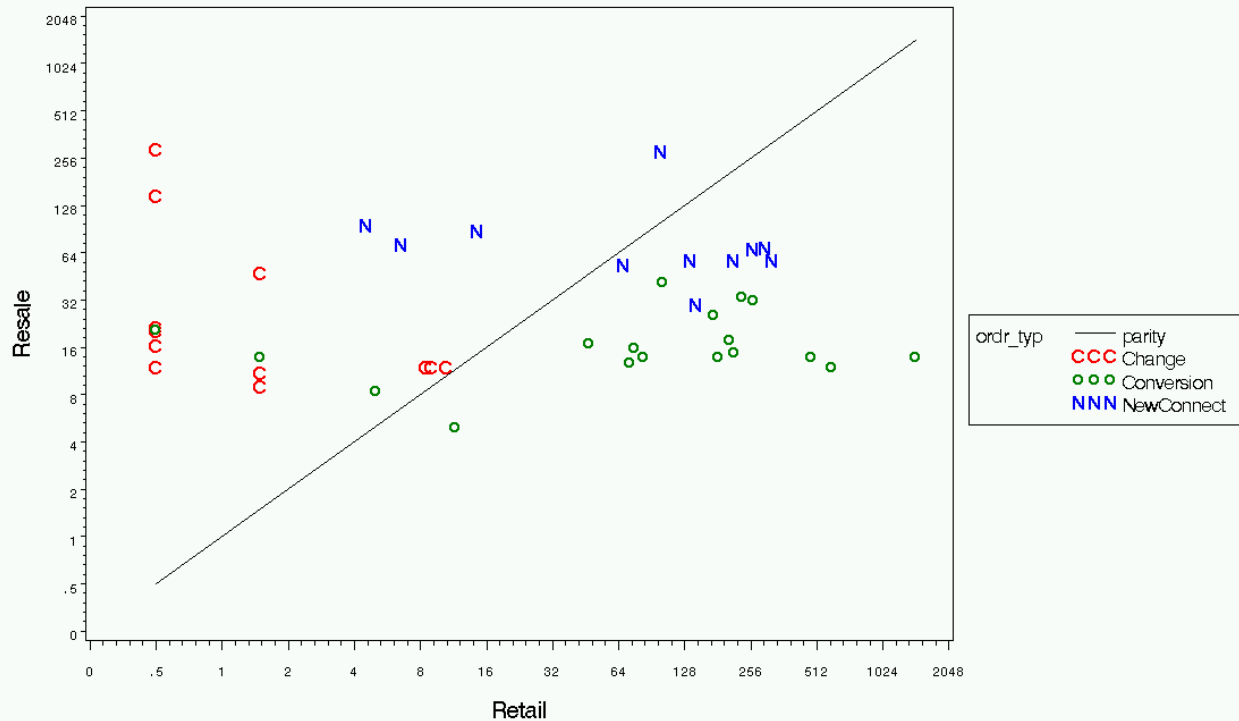


Figure 3.1.4.1b: Phase I Total Response Time — Resale vs Retail by Order Type

Each point is a test case result: horizontal axis value is the retail result, vertical axis value is Resale result
 Diagonal Line indicates parity performance
 Points above and to the left of diagonal indicate test cases with longer Resale response times than Retail
 Points below and to the right of diagonal indicate test cases with shorter Resale response times than Retail



The Phase I results³⁷ suggest differences in the relationship between resale and retail pre-order query response times from clump to clump. Many of the clumps exhibited substantially longer resale than retail times. However, POTS conversions and new connects with features exhibited much longer retail than resale times, primarily due to several extremely long retail address validation times (1440 seconds, 600 seconds, 480 seconds, etc.). It was determined that script changes were necessary to correctly measure the retail address validation times. Therefore the Phase I data were used only to size the Phase II sample, and not pooled with the Phase II data for final analysis.

The clumps suggested by the Phase I data are not quite mutually exclusive – some Phase I tests belong to more than one clump. Given the resale versus retail differences observed in Phase I, it was desired to have sufficient sample size in Phase II to be 95% sure of detecting differences at least as large.

³⁷ CGE&Y Archive File: RPE #8 - P-I Data Summary

There were 20 test scenarios examined within Phase II, with the number of iterations per scenario varying from 2 through 12. The following table provides the results and statistical calculations for each of these 20 scenarios:

Scenario	Plot Symbol	Bus or Res	Order Type	Features	Service	n	resale_t	retail_t	effect	ratio	std_d_log_t	delta	t	crit_t	p_value
1	A	RES	CHNG	Y	POTS	8	18.63	6.75	0.99	2.69	0.20	4.87	13.77	1.89	0.0000
2	B	RES	CHNG	N	POTS	6	23.17	7.50	1.13	3.08	0.36	3.09	7.56	2.02	0.0003
3	C	RES	NEW	N	POTS	6	64.67	22.83	1.00	2.72	0.48	2.09	5.11	2.02	0.0019
4	D	RES	CONV	Y	POTS	8	23.88	14.75	0.45	1.56	0.41	1.10	3.10	1.89	0.0087
5	E	BUS	CHNG	Y	POTS	4	24.50	7.00	1.28	3.59	0.27	4.71	9.42	2.35	0.0013
6	F	BUS	CHNG	N	POTS	6	23.17	6.83	1.23	3.42	0.26	4.77	11.68	2.02	0.0000
7	G	BUS	NEW	Y	POTS	4	55.75	20.75	0.99	2.69	0.26	3.75	7.50	2.35	0.0025
8	H	BUS	NEW	N	POTS	5	66.50	22.10	1.07	2.92	0.42	2.56	5.71	2.13	0.0023
9	I	BUS	CONV	Y	POTS	12	22.58	14.08	0.49	1.64	0.29	1.71	5.93	1.80	0.0000
10	J	RES	NEW	N	ISDN	2	97.00	12.00	2.12	8.32	0.25	8.42	11.91	6.31	0.0267
11	K	BUS	CHNG	N	ISDN	4	29.25	2.50	2.61	13.60	0.93	2.81	5.62	2.35	0.0056
12	L	BUS	NEW	N	ISDN	2	93.00	21.00	1.59	4.90	0.59	2.67	3.78	6.31	0.0824
13	M	B/R	CONV	N	ISDN	4	39.75	33.50	0.15	1.17	0.24	0.65	1.30	2.35	0.1423
14	N	BUS	CHNG	Y	CNTX	3	18.67	5.67	1.37	3.94	0.99	1.39	2.40	2.92	0.0692
15	O	BUS	CHNG	N	CNTX	4	17.75	12.50	0.56	1.74	0.88	0.63	1.26	2.35	0.1490
16	P	BUS	NEW	N	CNTX	4	56.75	19.50	1.08	2.96	0.18	6.18	12.37	2.35	0.0006
17	Q	BUS	CONV	N	CNTX	4	22.50	4.00	2.03	7.59	0.70	2.90	5.81	2.35	0.0051
18	R	BUS	NEW	N	PBX	2	52.50	7.50	2.00	7.42	0.50	3.98	5.63	6.31	0.0560
19	S	BUS	CONV	Y	PBX	2	23.50	2.00	2.49	12.11	0.45	5.52	7.81	6.31	0.0405
20	T	BUS	CONV	N	PVT LINE	4	25.25	6.50	1.39	4.01	0.33	4.17	8.35	2.35	0.0018

Each Phase II scenario constitutes a unique combination of Market (Bus / Res), Order Type (New / Change / Conversion), Features (Y/N), and Service (POTS / ISDN / Centrex / PBX / Private Line). The other columns are explained as follows:

n:	Number of iterations
resale_t:	Total resale response time in seconds (after each individual query time increased by .5 seconds as described above) averaged over all iterations
retail_t:	Total retail response time in seconds (after each individual query time increased by .5 seconds as described above) averaged over all iterations
effect:	Average difference in the logarithms of resale_t and retail_t
ratio:	antilog of effect. Can be approximately interpreted as the ratio of resale_t / retail_t
std_d_log_t:	Standard deviation of difference in logarithms of resale_t and retail_t
delta:	Substantiality index – ratio of effect / std_d_log_t. D-

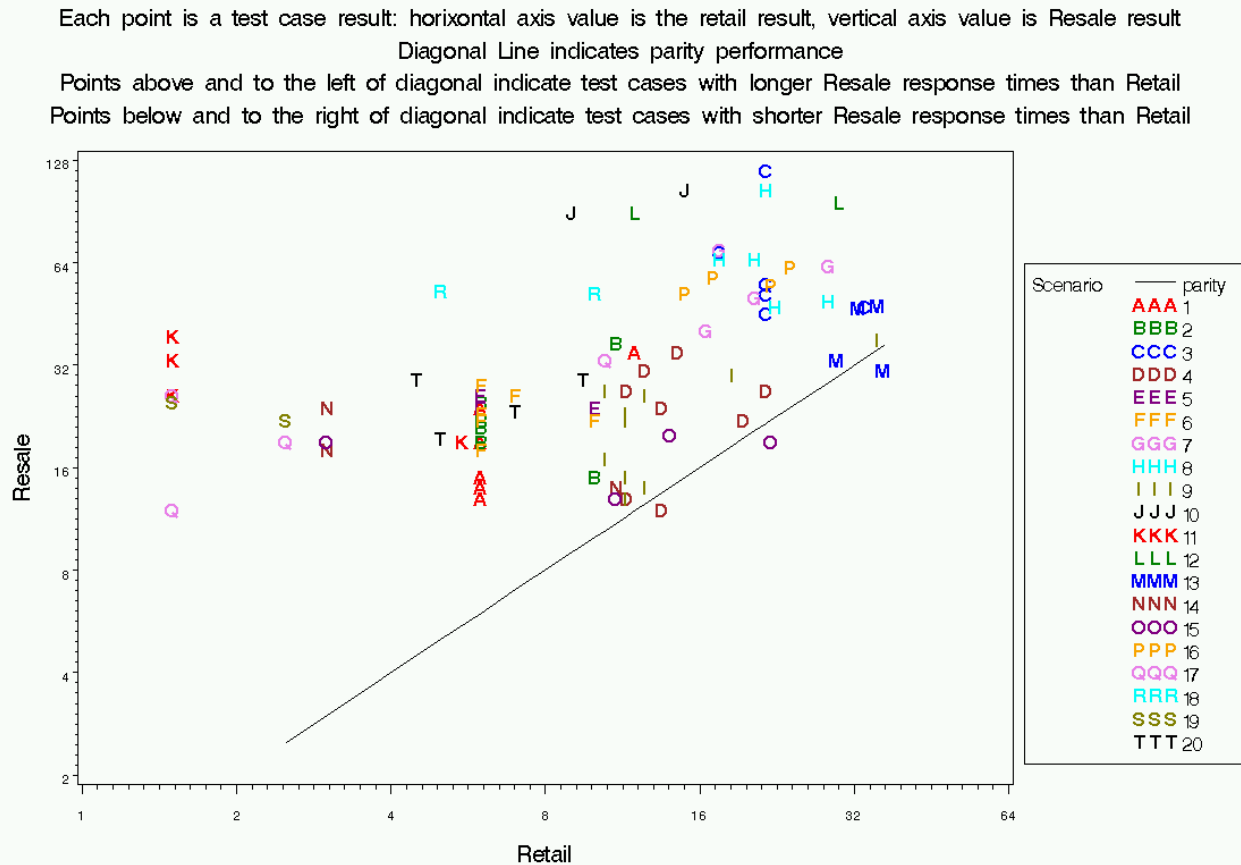
	statistic of TSD Section 9. Where this is greater than .143, the difference between resale and retail timeliness is to be considered substantial
t:	The Student's t statistic – (Square root of n) * delta
crit_t:	One-tailed .05 significance level critical value of the Student's t distribution with n-1 degrees of freedom
p_value:	The probability of observing at least as extreme a result if in fact service is exactly at parity. If this is less than .05 (or equivalently, if $t > \text{crit}_t$), then a statistically significant disparity has been observed

Per Section 9 of the TSD, when a difference is both statistically significant and substantial it will be considered evidence that access provided to the CLECs is not at parity with access provided to retail.

The above table indicates that for all scenarios examined in Phase II the timeliness of response was substantially longer for resale than for retail. In addition, for all scenarios except 12, 13, 14, 15, and 18 (none of which involved more than 4 iterations per scenario), the differences were statistically significant at the .05 level.

Figure 3.1.4.1c illustrates the results:

Figure 3.1.4.1c: Phase II Total Response Time — Resale vs Retail by Scenario



The diagonal line in Figure 3.1.4.1c indicates exact parity of service. Nearly all of the 94 points lie up and to the left of the diagonal line, with a significant number of them quite far from the diagonal. This indicates substantially longer response times for resale than for retail.

The following table examines each of the scenario-defining factors as main effects:

Bus or Res	Order Type	Features	Service	n	resale_ t	retail_ t	ratio	effect	std_dl og_t	delta	t	crit_t	p_value
BUS	CHNG CONV NEW	N Y	CNTX ISDN PBX POTS PVT LINE	94	34.93	12.78	3.02	1.10	0.73	1.51	14.65	1.66	0.0000
				17	29.12	9.88	3.83	1.34	0.85	1.59	6.54	1.75	0.0000
				12	54.67	17.50	4.66	1.54	1.21	1.27	4.41	1.80	0.0005
				3	43.33	5.50	9.72	2.27	0.59	3.87	6.71	2.92	0.0108
				60	32.66	13.25	2.42	0.89	0.43	2.04	15.78	1.67	0.0000
				2	21.50	6.00	3.62	1.29	0.11	12.13	17.16	6.31	0.0185
				53	42.42	13.75	3.62	1.29	0.77	1.68	12.20	1.67	0.0000
				41	25.24	11.54	2.38	0.87	0.61	1.42	9.09	1.68	0.0000
				35	21.97	7.00	3.51	1.26	0.74	1.71	10.09	1.69	0.0000
				34	25.26	13.74	2.33	0.85	0.80	1.06	6.17	1.69	0.0000
				25	66.22	19.58	3.47	1.24	0.53	2.37	11.84	1.71	0.0000
				62	34.81	12.22	3.37	1.22	0.78	1.56	12.24	1.67	0.0000

Bus or Res	Order Type	Features	Service	n	resale_ t	retail_ t	ratio	effect	std_d log_t	delta	t	crit_t	p_value
RES				32	35.16	13.88	2.43	0.89	0.57	1.55	8.79	1.70	0.0000

The first four columns indicate disaggregation levels analyzed for each row. A blank in these columns indicates that all possible values for that column are used in the results for that row. For instance, the last row considers all RES test scripts together, without regard for their Order Type, Features, or Service.

The first row indicates that over all 94 test scripts in Phase II, without regard to their unique factors, resale response times were about 3 times as long as retail response times, 35 seconds versus 13 seconds. This timeliness difference is statistically significant. (AZIWO1110) The other rows show that the substantiality and statistical significance of the timeliness difference persist within each value of each main effect considered alone.

Further analysis indicates that variation in effect is mostly explained by Service and Order Type, without regard to Bus/Res or presence/absence of Features. The following table illustrates the results for all combinations of Service and Order Type:

Bus or Res	Order Type	Features	Service	n	resale_ t	retail_ t	ratio	effect	std_d log_t	delta	t	crit_t	p_value
	CHNG		CNTX	7	18.14	9.57	2.47	0.91	0.95	0.95	2.51	1.94	0.0228
	CHNG		ISDN	4	29.25	2.50	13.60	2.61	0.93	2.81	5.62	2.35	0.0056
	CHNG		POTS	24	21.88	7.00	3.10	1.13	0.28	4.03	19.73	1.71	0.0000
	CONV		CNTX	6	23.50	3.83	7.57	2.02	0.55	3.68	9.02	2.02	0.0001
	CONV		ISDN	4	39.75	33.50	1.17	0.15	0.24	0.65	1.30	2.35	0.1423
	CONV		PBX	1	25.00	1.50	16.67	2.81					
	CONV		POTS	21	23.38	14.12	1.66	0.51	0.35	1.44	6.58	1.72	0.0000
	CONV		PVT LINE	2	21.50	6.00	3.62	1.29	0.11	12.13	17.16	6.31	0.0185
	NEW		CNTX	4	56.75	19.50	2.96	1.08	0.18	6.18	12.37	2.35	0.0006
	NEW		ISDN	4	95.00	16.50	6.39	1.85	0.48	3.84	7.69	2.35	0.0023
	NEW		PBX	2	52.50	7.50	7.42	2.00	0.50	3.98	5.63	6.31	0.0560
	NEW		POTS	15	62.90	22.03	2.78	1.02	0.39	2.65	10.26	1.76	0.0000

All combinations of Service and Order Type examined in Phase II exhibited substantial differences between resale and retail response times. Of these, all except ISDN Conversions (less substantial difference), New PBX (sample size too small), and PBX conversions (n=1, no statistical comparison possible) were statistically significant. Figure 3.1.4.1d and Figure 3.1.4.1e illustrate the relationship of matched resale and retail response times to Service and Order Type:

Figure 3.1.4.1d: Phase II Total Response Time — Resale vs Retail by Service

Each point is a test case result: horizontal axis value is the retail result, vertical axis value is Resale result
 Diagonal Line indicates parity performance
 Points above and to the left of diagonal indicate test cases with longer Resale response times than Retail
 Points below and to the right of diagonal indicate test cases with shorter Resale response times than Retail

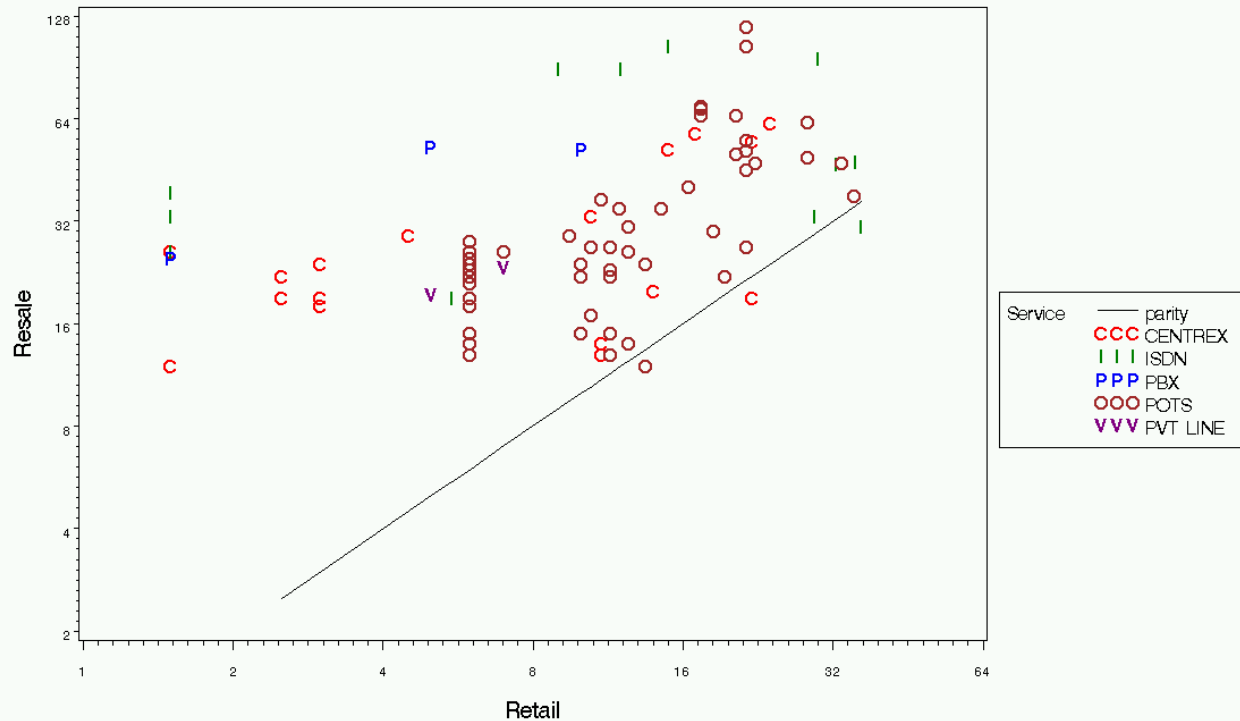
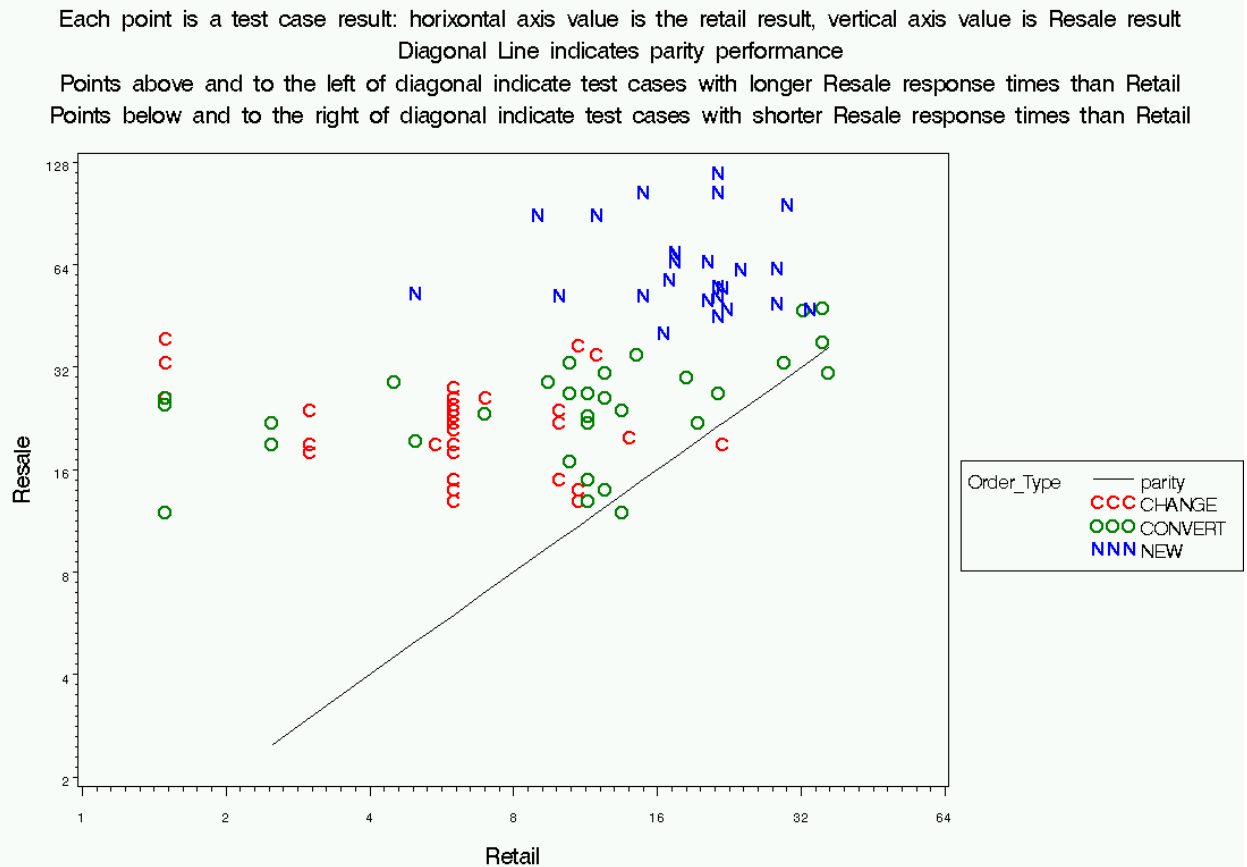


Figure 3.1.4.1e: Phase II Total Response Time — Resale vs Retail by Order Type



The results clearly indicate substantial and significant disparity of pre-order IMA-GUI response timeliness, with resale service representatives waiting approximately three times as long for a response as retail service representatives. This difference applies reasonably consistently across the scenarios examined in Phase II, even to those scenarios which exhibited extremely long retail address validation times in Phase I. These extremely long Phase I retail times should therefore be viewed as an artifact of a temporary condition impacting retail address validations for POTS New Connects and Conversions with features.

The consistent disparity observed in Phase II was the subject of AZIWO1110. The Retail Parity re-evaluation excluded the Pseudo-CLEC http timing delays and showed that the resale and retail experiences were substantially similar. AZIWO1110 was closed on this basis.

Re-Analysis of Phase II: *Adjusting for common per-individual-timing validations or pre-firewall differences:*

After identifying the substantial and pervasive timeliness disparities described above, CGE&Y performed a re-analysis to determine whether the difference in resale and retail response times might be due entirely to legitimate validations performed on each individually-timed query. This re-analysis was performed by first determining the lowest individual query response time over all individual queries across all 94 test scripts. The result was that the lowest individual resale query average response time was 2.5 seconds, and for retail queries it was 0.5 seconds. It was then considered that the maximum possible impact of a consistent per-query validation check would be reflected in the difference between these two minimal individual query response times. Therefore, the resale total response times were adjusted by subtracting 2.0 seconds per individual query timing. The results were then analyzed as above, resulting in the following tables and graphs:

Scenario	Plot Symbol	Bus or Res	Order Type	Features	Service	n	resale Total Adj. response Time	retail Total response Time	effect	ratio	std_dev_log_t	delta	t	crit_t	p_value
1	A	RES	CHNG	Y	POTS	8	18.63	6.75	0.75	2.12	0.27	2.73	7.71	1.89	0.0001
2	B	RES	CHNG	N	POTS	6	23.17	7.50	0.95	2.59	0.42	2.25	5.52	2.02	0.0013
3	C	RES	NEW	N	POTS	6	64.67	22.83	0.83	2.29	0.54	1.54	3.77	2.02	0.0065
4	D	RES	CONV	Y	POTS	8	23.88	14.75	0.27	1.30	0.50	0.53	1.51	1.89	0.0877
5	E	BUS	CHNG	Y	POTS	4	24.50	7.00	1.13	3.11	0.28	4.01	8.03	2.35	0.0020
6	F	BUS	CHNG	N	POTS	6	23.17	6.83	1.07	2.92	0.28	3.78	9.26	2.02	0.0001
7	G	BUS	NEW	Y	POTS	4	55.75	20.75	0.80	2.23	0.30	2.69	5.39	2.35	0.0063
8	H	BUS	NEW	N	POTS	5	66.50	22.10	0.91	2.49	0.47	1.92	4.30	2.13	0.0063
9	I	BUS	CONV	Y	POTS	12	22.58	14.08	0.32	1.37	0.34	0.93	3.21	1.80	0.0042
10	J	RES	NEW	N	ISDN	2	97.00	12.00	2.03	7.61	0.25	8.24	11.66	6.31	0.0272
11	K	BUS	CHNG	N	ISDN	4	29.25	2.50	2.29	9.84	1.08	2.12	4.24	2.35	0.0120
12	L	BUS	NEW	N	ISDN	2	93.00	21.00	1.49	4.43	0.60	2.50	3.53	6.31	0.0879
13	M	RES	CONV	N	ISDN	4	39.75	33.50	-0.08	0.93	0.30	-0.26	-0.52	2.35	0.6795
14	N	BUS	CHNG	Y	CNTX	3	18.67	5.67	0.79	2.19	1.22	0.64	1.12	2.92	0.1902
15	O	BUS	CHNG	N	CNTX	4	17.75	12.50	-0.07	0.93	0.98	-0.07	-0.14	2.35	0.5515
16	P	BUS	NEW	N	CNTX	4	56.75	19.50	0.86	2.36	0.17	5.05	10.10	2.35	0.0010
17	Q	BUS	CONV	N	CNTX	4	22.50	4.00	1.48	4.39	0.75	1.98	3.97	2.35	0.0143
18	R	BUS	NEW	N	PBX	2	52.50	7.50	1.87	6.51	0.52	3.59	5.07	6.31	0.0620
19	S	BUS	CONV	Y	PBX PVT	2	23.50	2.00	2.11	8.21	0.51	4.13	5.85	6.31	0.0539
20	T	BUS	CONV	N	LINE	4	25.25	6.50	0.98	2.66	0.42	2.34	4.68	2.35	0.0092

Figure 3.1.4.1f: Maximally Adjusted Phase II Total Response Time. By Scenario

2 secs subtracted from each individual Resale Query response time

Points above and to the left of diagonal indicate test cases with longer Resale response times than Retail
Points below and to the right of diagonal indicate test cases with shorter Resale response times than Retail

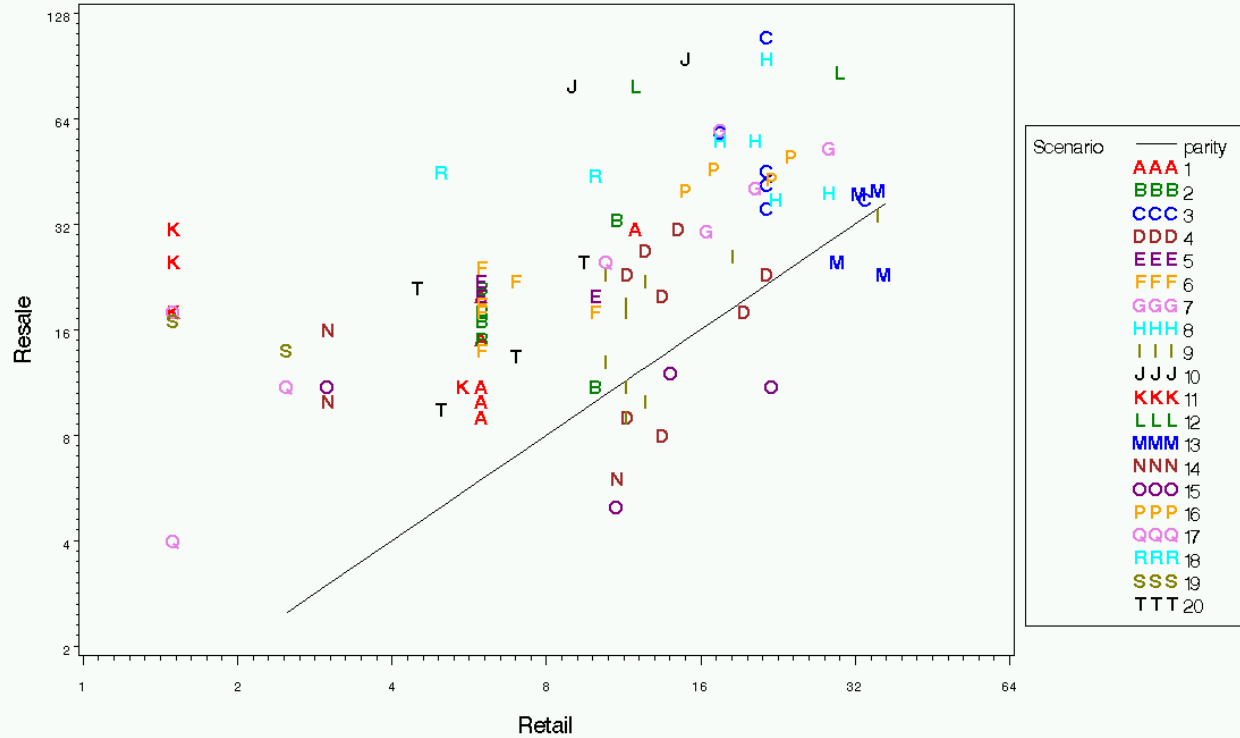
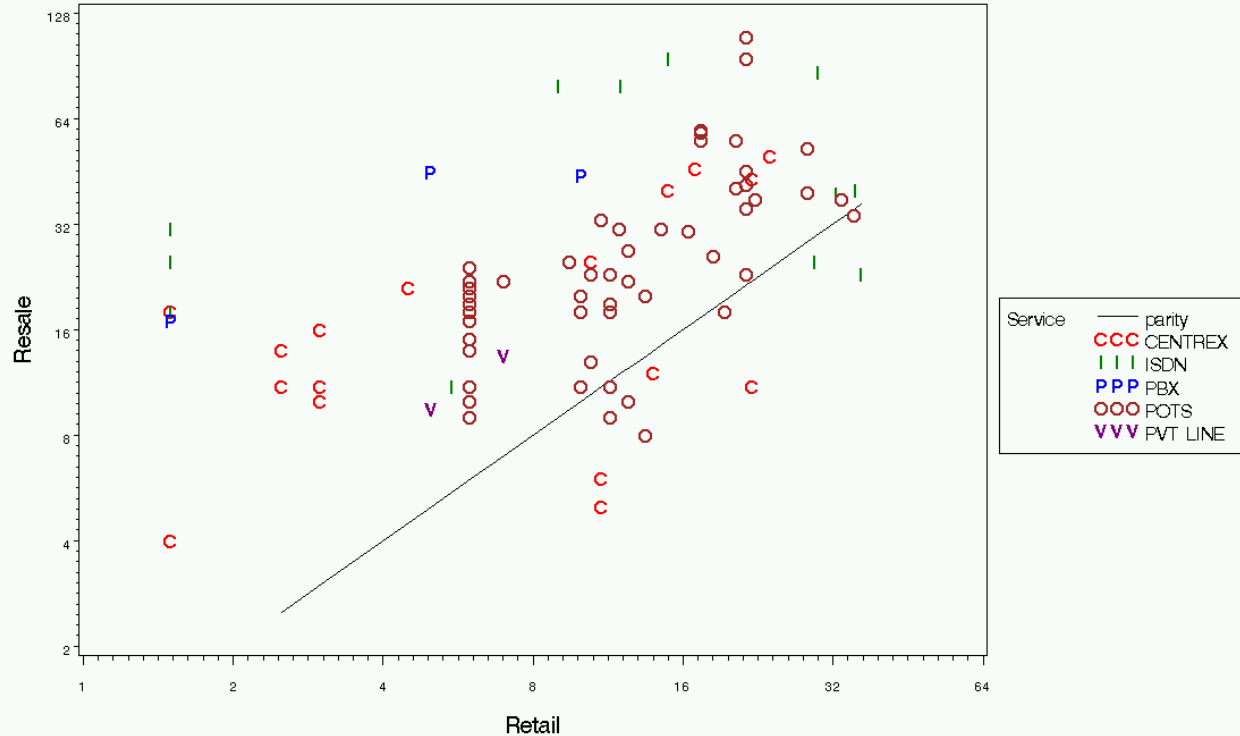


Figure 3.1.4.1g: Maximally Adjusted Phase II Total Response Time. By Service

2 secs subtracted from each individual Resale Query response time

Points above and to the left of diagonal indicate test cases with longer Resale response times than Retail
Points below and to the right of diagonal indicate test cases with shorter Resale response times than Retail



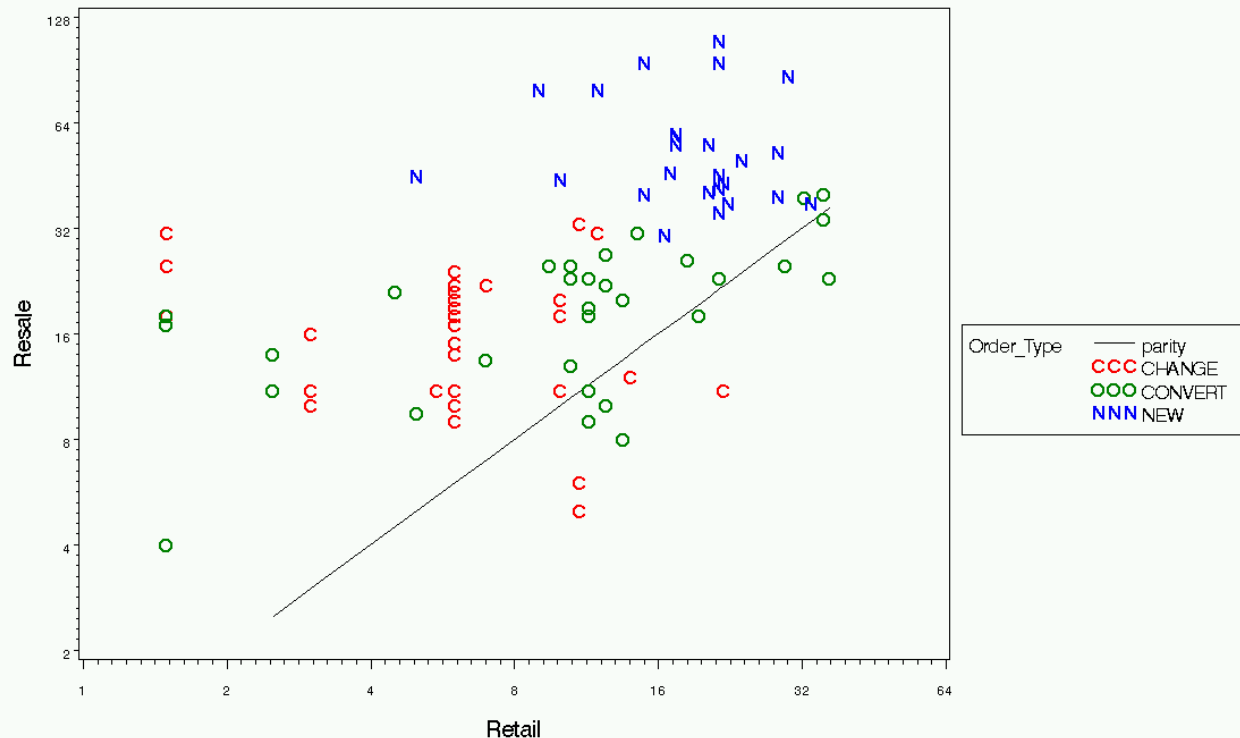
Bus or Res	Order Type	Features	Service	n	resale Total Adj. response Time	retail Total response Time	ratio	effect	std_d log_ t	delta	t	crit_t	p_value
BUS RES	CHNG CONV NEW	N Y	CNTX	94	28.23	12.78	2.29	0.83	0.75	1.10	10.68	1.66	0.0000
			ISDN	17	20.18	9.88	2.33	0.85	0.92	0.92	3.78	1.75	0.0008
			PBX	12	46.00	17.50	3.69	1.31	1.22	1.07	3.70	1.80	0.0017
			POTS	3	35.33	5.50	7.66	2.04	0.49	4.13	7.15	2.92	0.0095
			PVT LINE	60	27.16	13.25	1.96	0.67	0.48	1.41	10.92	1.67	0.0000
				2	11.50	6.00	1.91	0.65	0.01	61.52	87.01	6.31	0.0037
				53	34.46	13.75	2.72	1.00	0.81	1.24	9.04	1.67	0.0000
				41	20.17	11.54	1.83	0.60	0.62	0.98	6.28	1.68	0.0000
				35	16.71	7.00	2.55	0.94	0.82	1.14	6.75	1.69	0.0000
				34	19.62	13.74	1.73	0.55	0.73	0.75	4.37	1.69	0.0001
				25	56.06	19.58	2.88	1.06	0.57	1.87	9.35	1.71	0.0000
				62	27.62	12.22	2.49	0.91	0.80	1.14	8.98	1.67	0.0000
				32	29.41	13.88	1.95	0.67	0.63	1.06	5.99	1.70	0.0000

Bus or Res	Order Type	Features	Service	n	Resale Total Adj. response Time	retail Total response Time	ratio	effect	std_d _log_ t	delta	t	crit_t	p_value
	CHNG		CNTX	7	10.14	9.57	1.32	0.28	1.07	0.26	0.68	1.94	0.2603
	CHNG		ISDN	4	21.25	2.50	9.54	2.25	1.06	2.12	4.23	2.35	0.0120
	CHNG		POTS	24	17.88	7.00	2.48	0.91	0.33	2.72	13.33	1.71	0.0000
	CONV		CNTX	6	15.50	3.83	4.54	1.51	0.58	2.60	6.37	2.02	0.0007
	CONV		ISDN	4	31.75	33.50	0.92	-0.08	0.30	-0.28	-0.55	2.35	0.6901
	CONV		PBX	1	17.00	1.50	11.33	2.43					
	CONV		POTS	21	19.38	14.12	1.34	0.29	0.42	0.70	3.19	1.72	0.0023
	CONV		PVT										
	CONV		LINE	2	11.50	6.00	1.91	0.65	0.01	61.52	87.01	6.31	0.0037
	NEW		CNTX	4	44.75	19.50	2.33	0.85	0.17	5.05	10.10	2.35	0.0010
	NEW		ISDN	4	85.00	16.50	5.71	1.74	0.48	3.64	7.27	2.35	0.0027
	NEW		PBX	2	44.50	7.50	6.29	1.84	0.51	3.64	5.14	6.31	0.0612
	NEW		POTS	15	52.90	22.03	2.29	0.83	0.43	1.92	7.43	1.76	0.0000

Figure 3.1.4.1h: Maximally Adjusted Phase II Total Response Time. By Order Type

2 secs subtracted from each individual Resale Query response time

Points above and to the left of diagonal indicate test cases with longer Resale response times than Retail
Points below and to the right of diagonal indicate test cases with shorter Resale response times than Retail



The re-analysis indicates that even after a maximal adjustment for security validations is made, resale response times are still 2.35 times as long as retail (on average 28 seconds versus 13 seconds) and this

difference is highly statistically significant. This statistical significance is relatively pervasive across the scenarios examined, though not as pervasive as before re-analysis. Breaking out the scenarios by combinations of Service and Order Type shows that the only qualitative change in substantiality and significance resulting from the adjustment process is on the Centrex Change scenarios. These are now only barely substantially longer for resale than retail, therefore the difference is no longer statistically significant. In conclusion, extra time on each individual resale query due to security validations, differences in network transmission or any other factors which would equally lengthen every individual resale query, cannot be fully responsible for the observed disparity.

The substantial and statistically significant disparity which remains even after making the maximal possible adjustment for potential security validations and other consistent per-individual query differences between resale and retail pre-order query response timings was the subject of AZIWO1110. The Retail Parity re-evaluation eliminated the http timing delays and showed that the resale and retail experiences were substantially similar. AZIWO1110 was closed on this basis.

Retail Parity Re-evaluation

CGE&Y conducted a limited re-evaluation of IMA-GUI pre-order/order functionality. During the Retail Parity re-evaluation, CGE&Y captured pre-order response times mechanically (via the HP logger)³⁸ and manually during the re-evaluation for resale transactions. The mechanically captured response times included the time taken for pre-order queries to be sent to Qwest and returned to the Pseudo-CLEC.³⁹ Manually captured timings included internal Pseudo-CLEC HTTP routing as explained in the third bullet of Section 3.1.4.1.2 of this report. For the purposes of AZIWO1110, and to make a fair comparison of the pre-order responses between resale and retail, CGE&Y relied heavily upon the mechanically collected response times as shown in the following figures. These figures indicate that the experience of a resale representative performing pre-order query transactions were similar to that of a retail representative performing similar activities using the internal OSS interfaces of Qwest. These results led to the closure of AZIWO1110.

³⁸ CGE&Y Archive File: RPE #12-HP Logger File

³⁹ CGE&Y Archive File: RPE #13-Re-evaluation Test Script Examples

Scenario	Bus/Res	Order Type	Service	n	clec_t	rtl_t	effect	ratio	std_d_log_t	delta	t	crit_t	p_value
111	BUS	CHANGE	POTS	24	4.88	3.33	0.39	1.48	0.40	0.99	4.83	1.71	0.0000
222	RES	CHANGE	POTS	28	4.68	4.11	0.21	1.24	0.62	0.34	1.82	1.70	0.0398
333	BUS	NEW	CENTRE X	5	8.20	7.80	0.11	1.11	0.50	0.22	0.49	2.13	0.3265
444	RES	NEW	ISDN	12	12.33	11.08	0.12	1.13	1.37	0.09	0.31	1.80	0.3814
555	BUS	NEW	POTS	45	15.34	6.39	0.90	2.47	0.51	1.76	11.80	1.68	0.0000
666	RES	NEW	POTS	48	7.63	5.94	0.24	1.26	0.70	0.33	2.31	1.68	0.0126
777	BUS	CONVERT	POTS	14	5.29	6.71	-0.17	0.85	0.34	-0.50	-1.85	1.77	0.9568
888	RES	CONVERT	POTS	19	4.84	7.24	-0.29	0.75	0.43	-0.66	-2.88	1.73	0.9951

CGE&Y cannot confirm or deny any statement that these timings alone show parity or disparity. Per the MTP, CGE&Y evaluated “OSS response times on a comparative basis, recognizing a difference in process” (MTP v4.2, Section 5.2). CGE&Y used the data from the preceding table, as well as other data and experience including the Retail Parity re-evaluation to close AZIWO1110. These findings were also used as basis for CGE&Y’s conclusion that the CLEC representative has an experience that is substantially the same in time and manner as that of a Qwest representative and that these timing differences do not negatively impact the customer experience.

Figure 3.1.4.1i: Retail Parity Re-evaluation Total Response Time — Resale vs Retail by Scenario

Each point is a test case result: horizontal axis value is the retail result, vertical axis value is Resale result

Diagonal Line indicates parity performance

Points above and to the left of diagonal indicate test cases with longer Resale response times than Retail

Points below and to the right of diagonal indicate test cases with shorter Resale response times than Retail

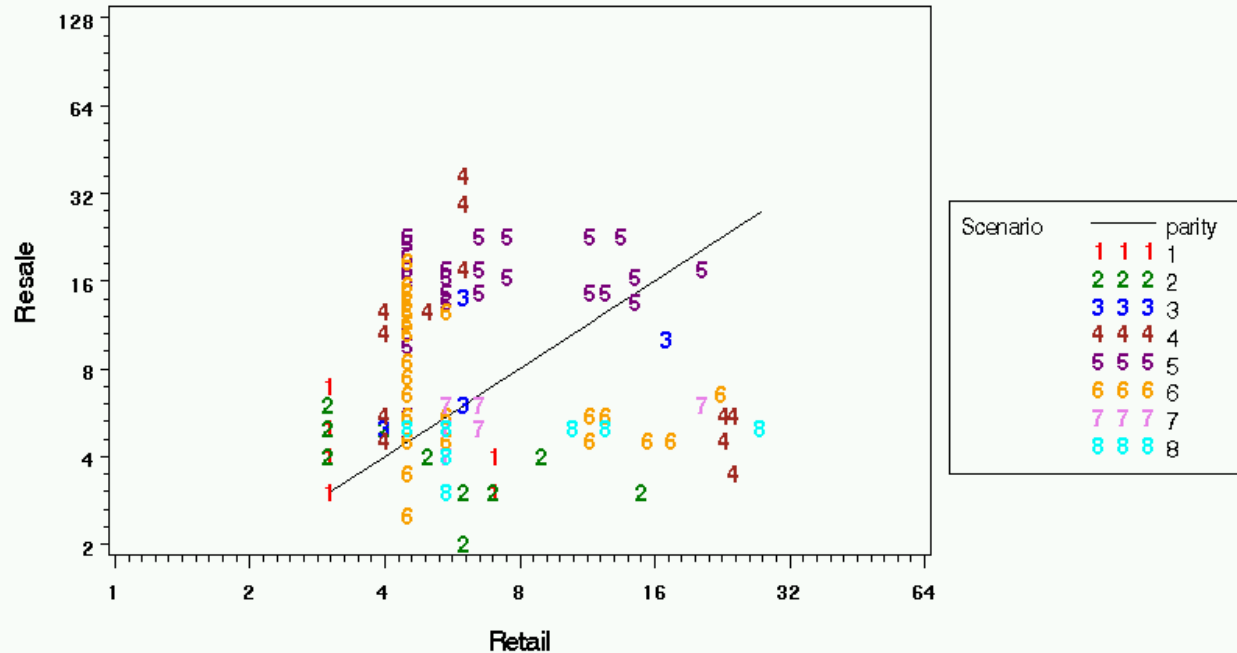


Figure 3.1.4.1j: Retail Parity Re-evaluation Total Response Time — Resale vs Retail by Service

Each point is a test case result: horizontal axis value is the retail result, vertical axis value is Resale result

Diagonal Line indicates parity performance

Points above and to the left of diagonal indicate test cases with longer Resale response times than Retail

Points below and to the right of diagonal indicate test cases with shorter Resale response times than Retail

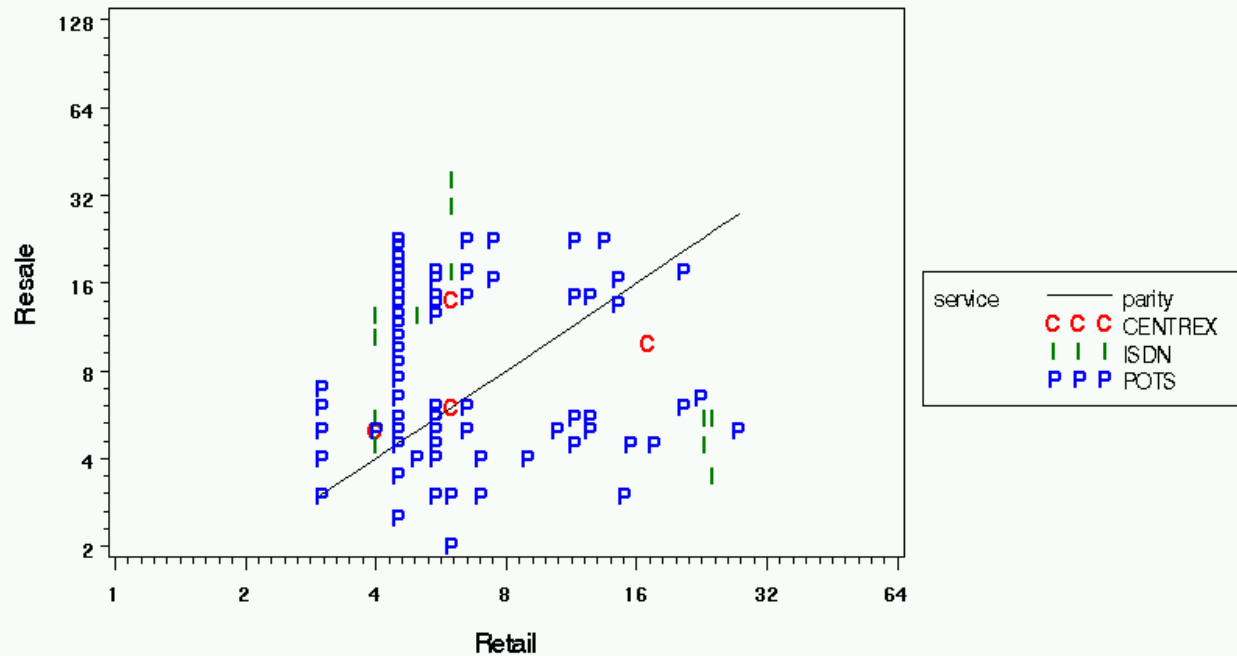


Figure 3.1.4.1k: Retail Parity Re—evaluation Total Response Time — Resale vs Retail by Order Type

Each point is a test case result: horizontal axis value is the retail result, vertical axis value is Resale result

Diagonal Line indicates parity performance

Points above and to the left of diagonal indicate test cases with longer Resale response times than Retail

Points below and to the right of diagonal indicate test cases with shorter Resale response times than Retail

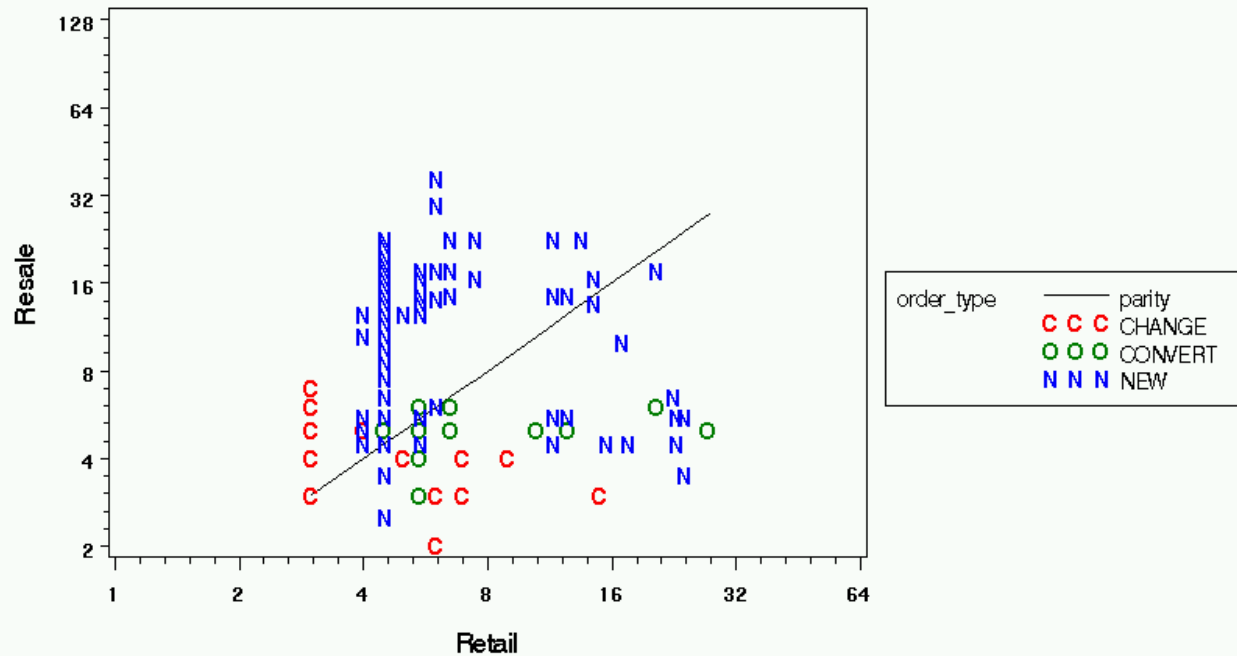


Figure 3.1.4.1: Retail Parity Re—evaluation Total Response Time. By Scenario

Points above and to the left of diagonal indicate test cases with longer Resale response times than Retail
Points below and to the right of diagonal indicate test cases with shorter Resale response times than Retail

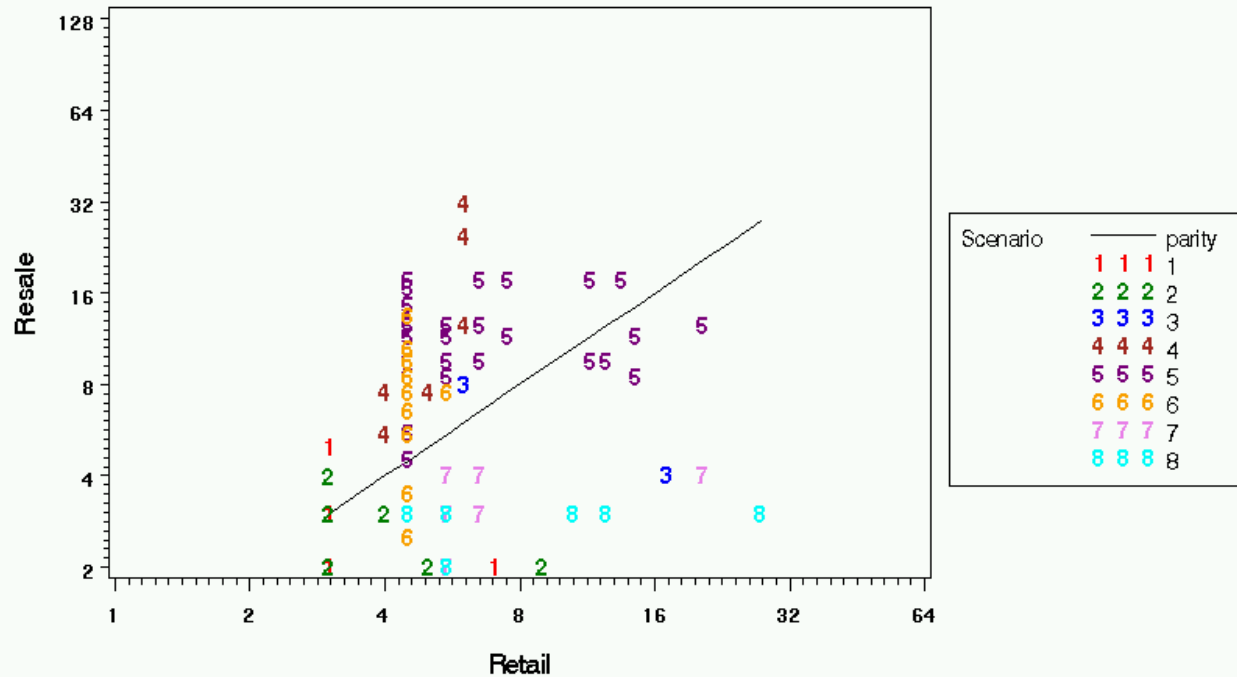


Figure 3.1.4.1m: Retail Parity Re—evaluation Total Response Time. By Service

Points above and to the left of diagonal indicate test cases with longer Resale response times than Retail
Points below and to the right of diagonal indicate test cases with shorter Resale response times than Retail

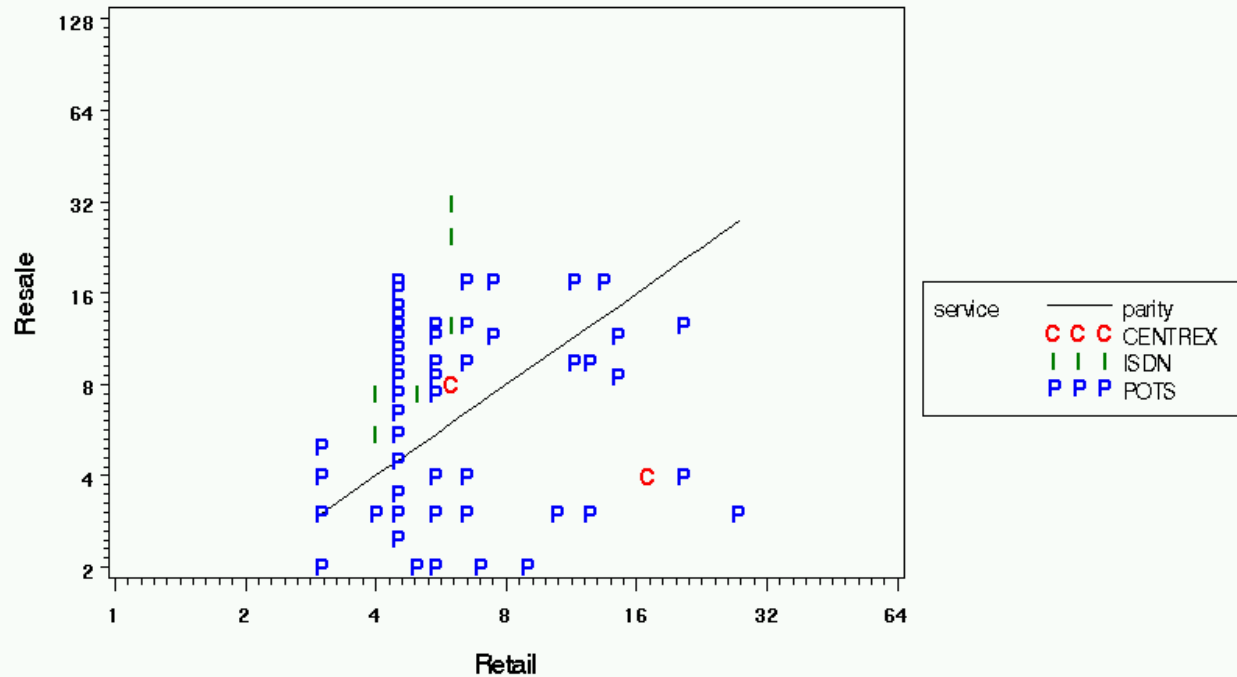
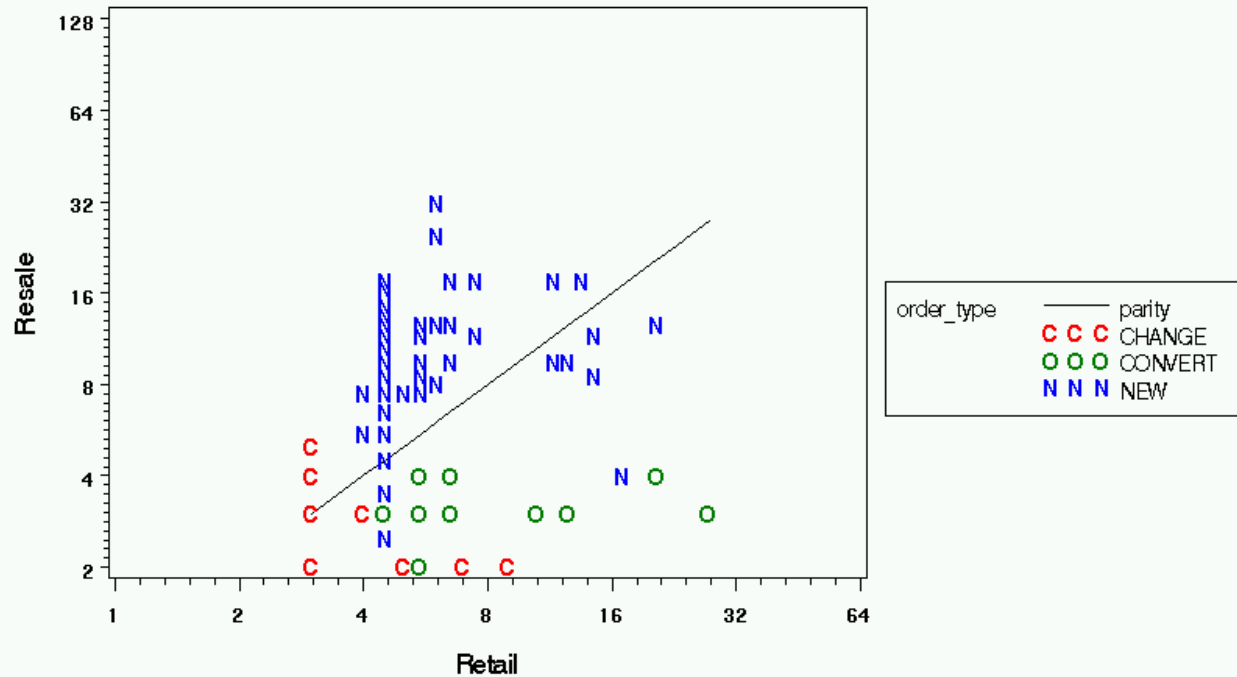


Figure 3.1.4.1n: Retail Parity Re—evaluation Total Response Time. By Order Type

Points above and to the left of diagonal indicate test cases with longer Resale response times than Retail
Points below and to the right of diagonal indicate test cases with shorter Resale response times than Retail



3.1.4.1.1 Network Comparison

The disparity in processing times between resale and retail queries can be explained in part by the topology of the respective networks involved.

Qwest retail order management centers connect to Qwest's legacy OSS and associated databases via QwestNet (Qwest Intranet), a series of dedicated high-capacity trunks. CLECs with dedicated OSS access are connected to the same network, either through dedicated T-1, fractional T-1, or 56kbps dial-up. Therefore, with the exception of the dial-up method the medium by which connectivity is accomplished is identical. The Pseudo-CLEC in the Arizona 271 evaluation used dedicated T-1s to access Qwest's OSS.

The end-to-end topology of a CLEC's interface with Qwest OSS, however, is very different. CLECs must interface with Qwest's back-end systems and databases using IMA-GUI which Qwest classifies as "Mediated Access." The mediation requires additional system processes not found in the retail architecture, and results in additional time between transaction initiation and completion; however, these processes are generally accepted industry practice(s).

There are many systems and databases that make up the Qwest suite of OSS. Some have direct access interfaces, either with mediation or without, and some do not. The primary Qwest legacy databases that may impact response times with which both resale and retail representatives must interface to accomplish the various pre-order queries and order transactions are:

- Business Operations Support System (BOSS) – CSRs
- Customer Account Retrieval System (CARS) – CSRs
- Loop – or Line – Facility Assignment Control System (LFACS) – Facility information
- PREMises Information System (PREMIS) – Address validation, TN assignment, and Primary Interexchange Carrier/Local Primary Interexchange Carrier (PIC/LPIC) information
- Trunks Integrated Records Keeping System (TIRKS) – Database of central office and outside plant facilities.
- Appointment Scheduler

Some of the other systems and databases that do not impact response times but are integral to the service order process are:

- SOP
- Service Order Constructor

The majority of Qwest's legacy systems that handle pre-order and order activity are divided into three regions. As a result, there are three different versions of most of the above databases. These regional versions are identified as PREMIS East, PREMIS Central, and PREMIS West, and so on for the other databases. The BOSS database only exists in the Eastern and Central regions; its function is served by CARS for Washington and Oregon only. The Appointment Scheduler is a Qwest-wide system.

In general, Qwest order management centers are responsible for a specific geographic region. As a result, a retail service representative would most likely need to access only one set of systems to complete a given order. For instance, for an order in Qwest's central region, the representative would access BOSS Central, PREMIS Central, LFACS Central, etc. Furthermore, the links between these centers and the databases they access are direct.

By comparison, all resale access to the same systems is funneled through one central location, regardless of the physical location of the CLEC service center. This is a sound architectural decision and by itself imposes minimal delay. The processing that occurs to transactions once they reach this central point, however, does cause transactional delays.

Figure 3.1.4.1.1a illustrates the resale schema; Figure 3.1.4.1.1b illustrates the retail schema. Please note that the diagram showing the resale architecture does not show the locations of any CLEC order management centers. It does, however, accurately depict the architecture and its centralized transaction brokering.

Figure 3.1.4.1.1a - Qwest Resale Major Facilities Mapping

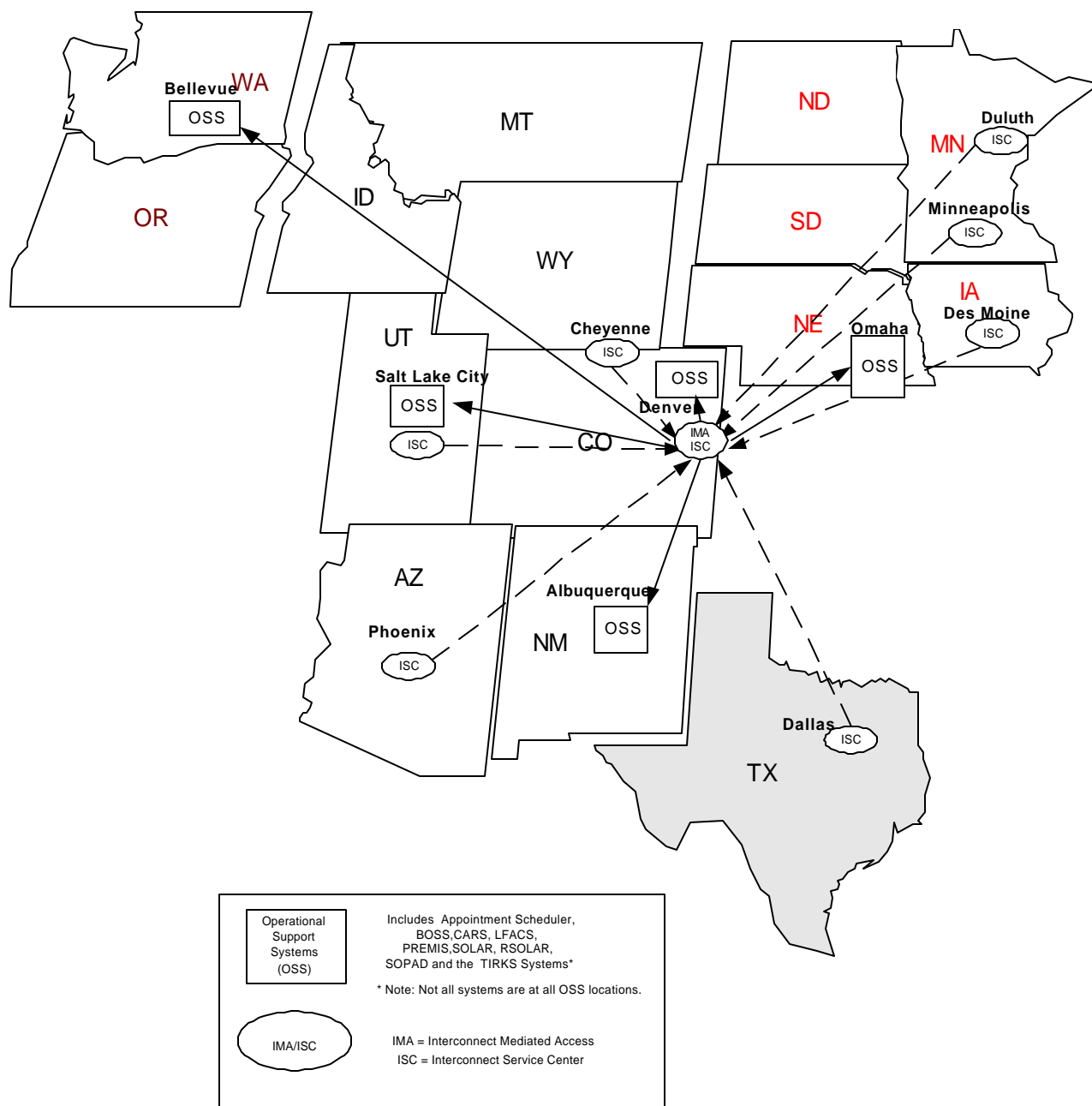
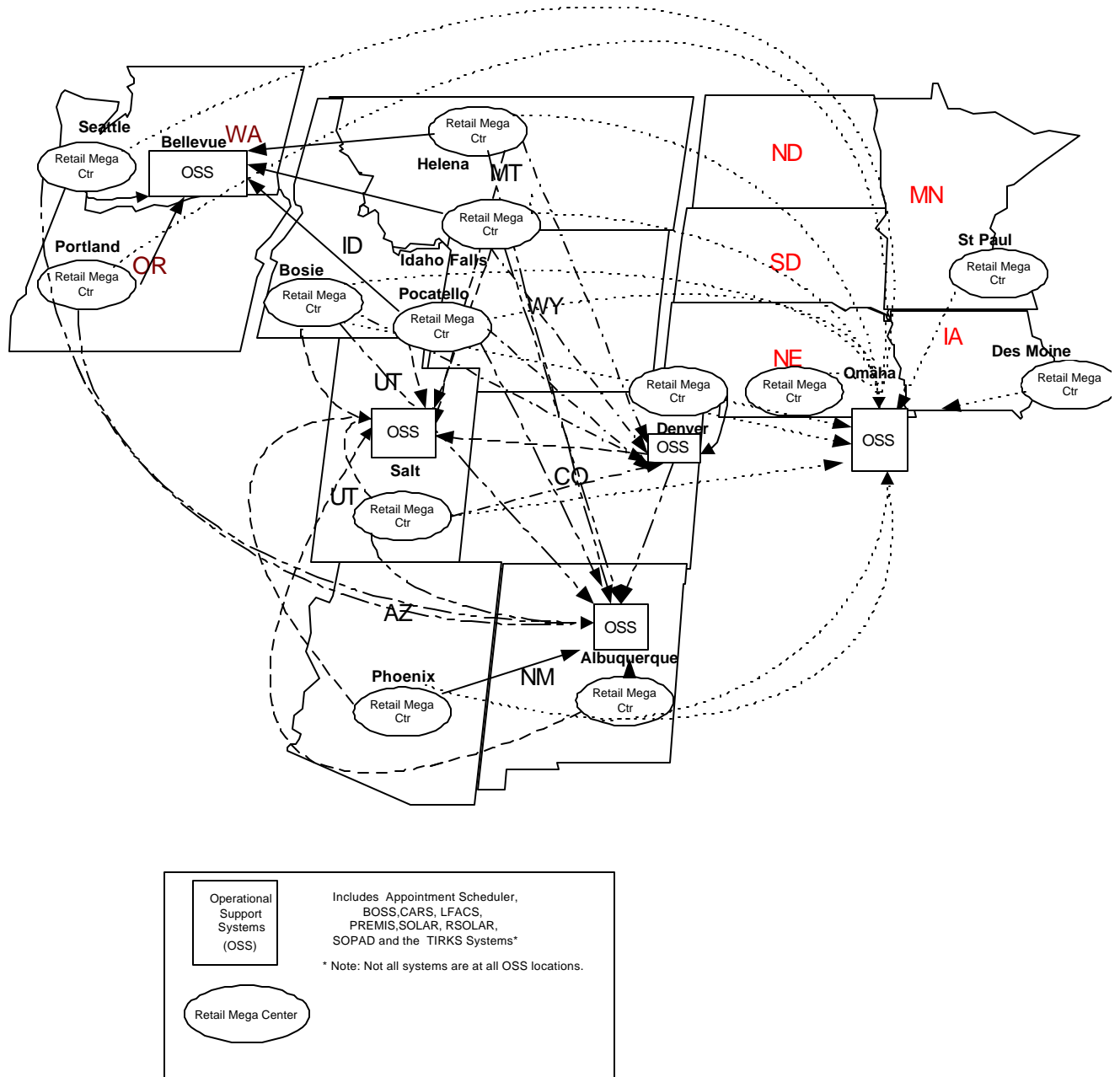


Figure 3.1.4.1.1b - Qwest Retail Major Facilities Mapping



3.1.4.1.2 Interface Comparison

As previously stated, the centralized nature of the resale architecture does not necessarily impose processing delays by itself. The mediation required by Qwest's "Interconnect Mediated Access," on the other hand, does have inherent delays. These delays include:

- **Query and Transaction Routing:** Because the legacy system resale interfaces (designed prior to the Telecommunications Act of 1996) do not directly access any particular system or database, the mediation process must decide what type of query is being run (e.g., address validation, service availability, CSR), and in what geographic area the end user is located in order to route the query to the correct database. These functions are performed by the following systems within Qwest:
 - Business Process Layer
 - Data Arbiter
 - Fetch 'N Stuff
- **Network and Database Security:** Because access to Mediated Access is effected through a single log-in by the CLEC at the Qwest firewall, the Qwest mediation process must pass along the CLEC's certificate to each system or database accessed so that authorization may be granted. Several such security transactions take place with each query. These transactions are transparent to the user, but impose a time delay. These security transactions protect both Qwest and the CLECs.
- **HTTP Routing:** Because the IMA-GUI system is web-based all transactions must be transferred via a web (HTTP) server on the Qwest side and received by a web server on the CLEC side. This imposes a minimal delay; however, it must be mentioned since there is no equivalent architecture on the retail side.

These delays can affect each individual query multiple times. The transaction routing and database considerations internal to Qwest's firewall may serve to explain part or all of the statistically significant and substantial disparity found in CGE&Y's pre-order query response timeliness analysis, beyond the initial network access and initial once-per-query security validation allowed for in CGE&Y's maximal adjustment re-analysis.

While these causes may explain why there is a timeliness disparity, the disparity outlined in AZIWO1110 nonetheless exists, and it may be possible to design the transaction routing or reduce the number of multiple security validations each query experiences to considerably lessen the impact of this disparity. The Retail Parity Re-evaluation eliminated the http timing delays and showed that the resale and retail experiences were substantially similar. AZIWO1110 was closed on this basis.

3.1.4.2 Quantitative Measurements

For the purposes of this evaluation “field” is defined as a data input requirement, and “step” is defined as any progression in the overall process such as clicking a button, moving to a new screen, etc. CGE&Y compared the cumulative number of steps and fields required for resale and retail to perform similar transactions. These are summarized in the table that follows.

	Test Case Combinations	Average Fields		Average Steps	
		Resale	Retail	Resale	Retail
1	POTS RES CHNG w/Features	35	14	34	13
2	POTS RES CHNG w/o Features	29	13	29	13
3	POTS RES NEW w/o Features	54	32	54	27
4	POTS RES WINB w/Features	28	25	29	23
5	POTS BUS CHNG w/Features	32	14	31	14
6	POTS BUS CHNG w/o Features	40	13	32	13
7	POTS BUS NEW w/Features	56	34	53	32
8	POTS BUS NEW w/o Features	52	33	55	32
9	POTS BUS WINB w/Features	25	28	26	23
10	ISDN RES NEW w/o Features	52	117	50	29
11	ISDN BUS CHNG w/o Features	31	24	30	10
12	ISDN BUS NEW w/o Features	52	50	50	36
13	ISDN B/R WINB w/o Features	32	93	31	25
14	CNTX BUS CHNG w/Features	45	26	32	10
15	CNTX BUS CHNG w/o Features	47	27	31	11
16	CNTX BUS NEW w/o Features	57	63	48	30
17	CNTX BUS CONV w/o Features	27	49	26	17
18	PBX BUS NEW w/o Features	60	76	36	27
19	PBX BUS CONV w/Features	25	36	25	13
20	PVT BUS CONV w/o Features	46	60	37	37

The preceding table shows that test case combinations 1-8, 11, 12, 14 and 15 required more data entry fields for resale than retail and that test case combinations 9, 10, 13, and 16-20 required more data entry fields for retail than resale. The data are represented graphically in Figure 3.1.4.2a following.

The preceding table also shows that, with the exception of test case number 20, all test case combinations required more steps for resale than retail to complete similar transactions. The data are represented graphically in Figure 3.1.4.2b following.

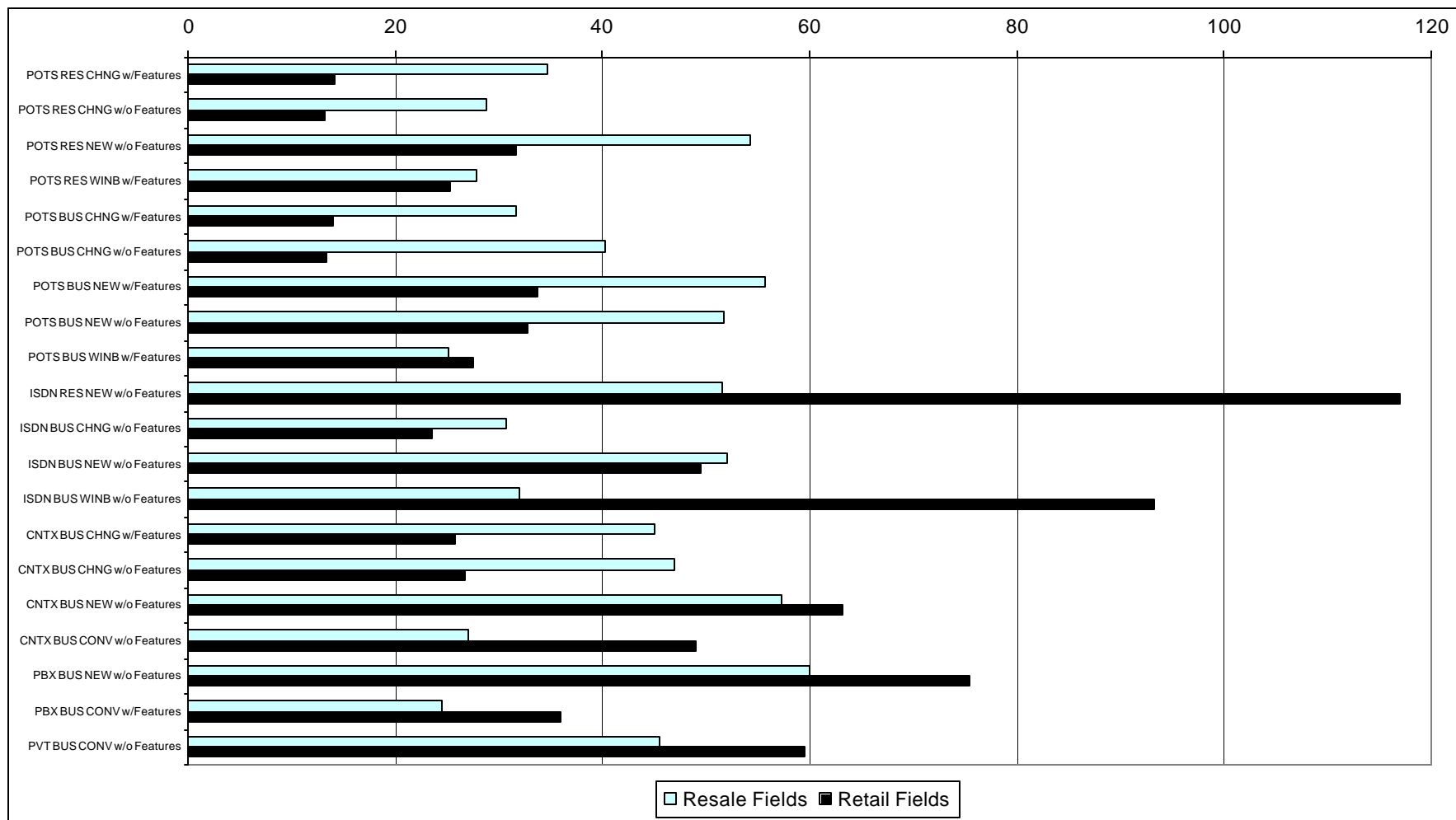
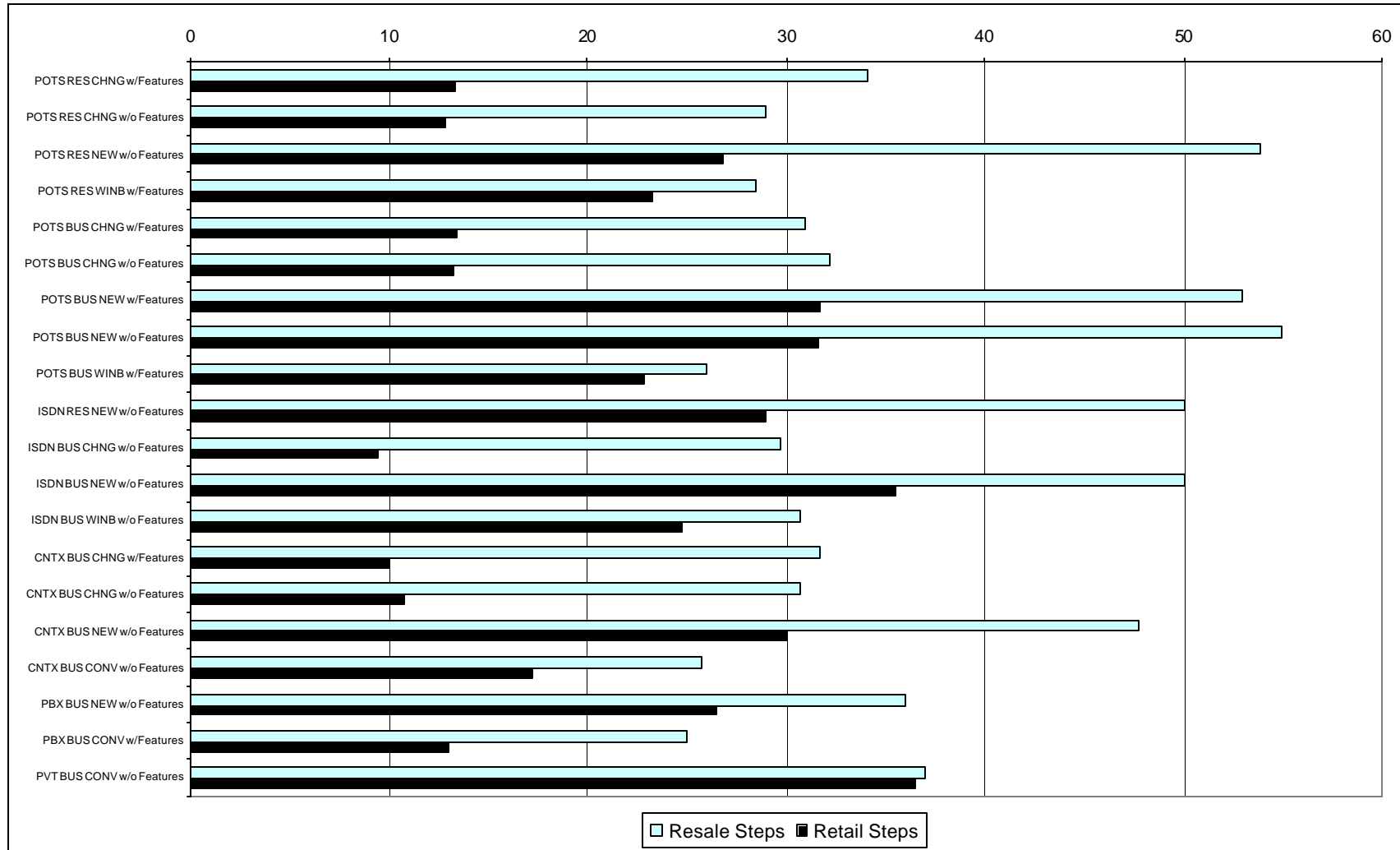
Figure 3.1.4.2a – Field Comparison


Figure 3.1.4.2b – Step Comparison



Retail Parity Re-evaluation

	Test Cases Combinations	Actual Fields		Actual Steps	
		Retail	Resale	Retail	Resale
1	CNTX BUS New w/o Features	66	73	32	47
2	ISDN RES New w/o Features	102	46	29	56
3	CONV/Winback POTS BUS w/Features	29	23	22	15
4	CONV/Winback POTS RES w/Features	34	32	23	27
5	POTS RES New w/ Features	14	48	21	54
6	POTS BUS New w/ Features	27	48	25	43
7	POTS RES Change w/ Features	12	31	11	30
8	POTS BUS Change w/ Features	12	31	11	30

The preceding table shows that test case combinations 1 and 5-8 required more data entry fields for resale than retail and that test case combinations 2-4 required more data entry fields for retail than resale. With the exception of test case number 3, there are more steps required for resale than retail to complete similar transactions.

The preceding table also shows that, with the exception of test case number 3, all test case combinations required more steps for resale than retail to complete similar transactions. The data are represented graphically in Figure 3.1.4.2d below.

CGE&Y found that for resale POTS service types data entry required an average of 15% manual entry and CENTREX required 35% manual entry. The data are represented graphically in Figure 3.1.4.2c below.

CENTREX orders performed during the Retail Parity re-evaluation:

CLEC/Resale	Number of Fields	% of Total Fields
CENTREX New Connect – 20 lines		
Pre-populated fields	29	15%
Pull Down	98	50%
Manual Entry	70	35%
Retail		
CENTREX New Connect – 20 lines		
Pre-populated fields	0	0%
Pull Down	28	16%
Manual Entry	147	84%

POTS orders performed during the Retail Parity re-evaluation:

CLEC/Resale POTS New Connect – 20 lines	Number of Fields	% of Total Fields
Pre-populated fields	170	49%
Pull Down	129	36%
Manual Entry	53	15%
Retail POTS New Connect – 20 lines		
Pre-populated fields	12	1%
Pull Down	27	14%
Manual Entry	151	85%

Per the findings above, the percent of entries that must be performed manually is significantly higher for retail representatives than it is for CLEC representatives. Therefore, CGE&Y supports the conclusion that the CLEC representative has an experience that is substantially the same in time and manner as that of a Qwest representative and these differences do not negatively impact the customer experience. These findings were used to close AZIWO1111.

Figure 3.1.4.2c – Field Comparison

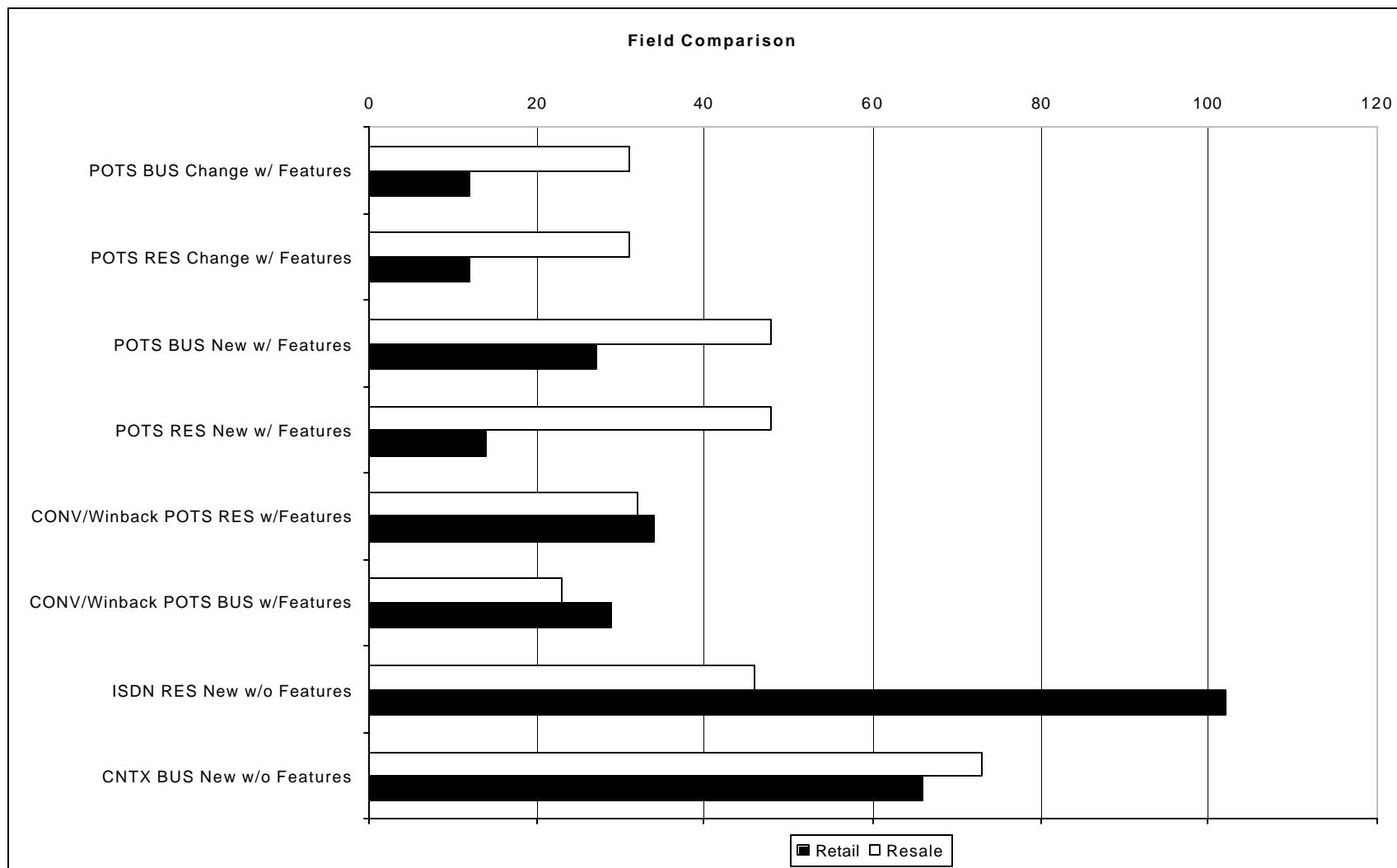
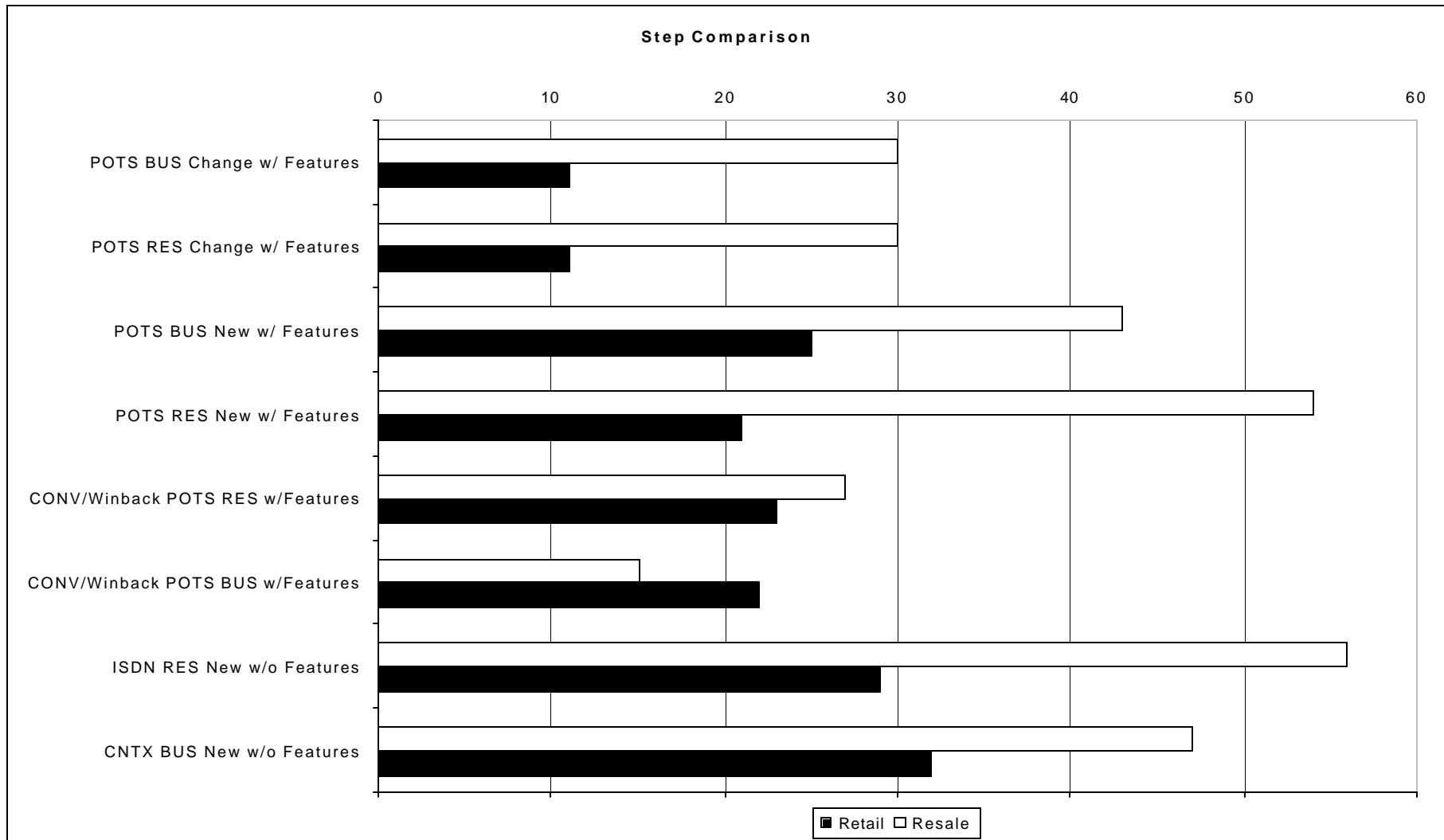


Figure 3.1.4.2d – Step Comparison



3.1.4.3 Qualitative Measurements

Section 5.2 of the MTP states that the RPE "...is qualitative in that it compares the information that a Qwest representative handling a customer can obtain compared to that which a CLEC representative can obtain, in terms of equivalency and accuracy. This includes not only standard pre-order and ordering functionality, but also other information needed to handle customers, such as: order status, escalations, and obtaining preferential or vanity numbers."

CGE&Y compared the quantity and quality of information retrieved by resale and retail systems in pre-order transactions. The focus of the evaluation was whether both were able to retrieve equivalent information from Qwest's OSS, such as similar appointment times, requested TN's, etc.

The evaluation showed that the quality and quantity of information obtained through pre-order queries was substantially the same as that obtained by Qwest through similar queries, and that the overall experience in submitting an order was also substantially the same for both.

The results of this evaluation are further summarized in the following table:

TSD Section 4.1 Question	Objective Satisfied?	Comments
1) Does the Pseudo-CLEC service representative experience substantially the same likelihood that the order's original due date, reserved TN and selected features will remain unchanged through receipt of FOC versus that which is experienced by the Qwest service representative?	Y	The resale and retail test scripts experienced no unasked-for changes to an order's original due date, reserved TN or selected features through acceptance by the SOP (retail), and through receipt of a FOC (resale). NOTE: Per Section 5.2 of the MTP, "...once the order has been submitted, it is only necessary to run the Retail Parity Evaluation through the ordering processes or through submission of a trouble report. Consequently, the Retail Parity Evaluation activities will be cancelled in the SOP."

TSD Section 4.1 Question	Objective Satisfied?	Comments
2) Is the time and effort to perform pre-order queries substantially the same for Pseudo-CLEC and Qwest service representatives?	Y	<p>Substantial differences were found in both the timings and the numbers of fields and steps required for the various queries between resale and retail. Detailed explanations of these differences can be found in Sections 3.1.4.1 and 3.1.4.2 of this report. (AZIWO1110 – timings; AZIWO1111 – fields and steps)</p> <p>As stated in Section 3.1.4.1, CGE&Y's re-evaluation found pre-order response times to be similar for Pseudo-CLEC and Qwest service representatives. These findings close AZIWO1110 and AZIWO1111.</p>
3) Is the level of pre-order to order integration substantially the same for the Pseudo-CLEC, when using the IMA-GUI, and Qwest service representatives?	Y	<p>The IMA-GUI pre-order-to-order integration for POTS allows the resale service representative to retrieve pre-order responses via pull-downs in the order generation tabs. The retail systems do not separate pre-order and order functionality for POTS service requests. While this does not provide parity for pre-order-to-order integration, this functionality does allow creation of the resale order without re-keying the pre-order data.</p> <p>For complex services, however, the reverse is true. The retail systems require multiple entries to be made in various systems. IMA-GUI allows resale pre-order</p>

TSD Section 4.1 Question	Objective Satisfied?	Comments
		<p>responses to be retrieved via pull-downs in the order generation tabs. Neither retail nor resale complex services are flow through eligible.</p> <p>During the Retail Parity re-evaluation, CGE&Y compared the number of required manual fields to create an LSR for resale. Pre-order and order transactions are not separated for retail. POTS service types required an average of 15% manual entries by resale and 80% manual entries by retail. The CENTREX example used during the Retail Parity re-evaluation showed 35% manual entries for resale and 84% manual entries for retail.</p>
<p>4) Is the data on the screens presented to the Pseudo-CLEC service representative, by the IMA-GUI, substantially the same as the data presented to the Qwest service representative?</p>	<p>Y</p>	<p>Resale pre-order query response data were substantially the same as retail in content. The format of the responses, due mostly to systems design considerations, was different in most instances. The responses returned were clear, easily interpreted, and specific to the query transaction.</p>
<p>5) For service to be installed in the same serving area, are substantially the same reported facilities available for the Qwest service representative and the Pseudo-CLEC service representative?</p>	<p>Y</p>	<p>Facility Availability queries were found to produce substantially the same results for the Qwest service representative and the Pseudo-CLEC service representative when conducted during the same timeframe for the same geographic area.</p>

TSD Section 4.1 Question	Objective Satisfied?	Comments
6) Is the procedure used to reserve large blocks of TNs substantially the same for both a Pseudo-CLEC service representative and a Qwest service representative?	Y	<p>The procedure to reserve large blocks of TNs required a manual process for both resale and retail for the same geographic area. (DR-192)</p> <p>Although the procedures for both retail and resale are manual, the manual procedures exhibit differences:</p> <p>During the Retail Parity re-evaluation, CGE&Y determined the resale representatives do not call the same telephone number to reserve large blocks of TNs as the retail representatives. The resale representatives receive the requested TNs via FAX, while the retail representatives receive the TNs during the call. The times ranged from 23 minutes to 1 hour and 10 minutes from the time the call was placed to the ISC until the fax was received.⁴⁰</p>
7) For service to be installed in the same serving area, are substantially the same due date intervals experienced by the Qwest service representative and the Pseudo-CLEC service representative?	Y	Resale Appointment Scheduling queries were found to produce substantially the same results as retail queries conducted during the same timeframe.
8) Is substantially the same opportunity provided to the Pseudo-CLEC service representative and the Qwest service representative	Y	An Expedite field is available on the LSR form for the resale representative to use to indicate that an order needs to be expedited, but this must be

⁴⁰ CGE&Y Archive File: RPE# 14-Functionality Retest Documented Results

TSD Section 4.1 Question	Objective Satisfied?	Comments
to expedite due dates?		<p>accompanied by a telephone call to the Interconnection Service Center (ISC). The retail representative must also make an internal phone call to expedite an order.</p> <p>As a result of the Functionality retest and the Retail Parity re-evaluation, it is CGE&Y's opinion that the process to request an expedited due date is substantially the same for the resale representative and the retail representative.</p>
9) Is the procedure to obtain and/or reserve a "vanity" TN substantially the same for both a Pseudo-CLEC service representative and a Qwest service representative?	Y	<p>IMA-GUI does not provide the functionality to request a specific phone number. The resale representative must call Qwest in this situation.</p> <p>The retail system allows the representative to request a specific number, and if that number is not available it will present a list of alternatives. (AZIWO1112)</p> <p>During the RPE re-evaluation, CGE&Y determined through observation of the test case performance that both retail and resale representatives were accessing the same Telephone & Address GUI system to obtain the vanity TNs. At this time CGE&Y believes the resale representatives have substantially the same ability to obtain and reserve vanity TNs as the retail representatives. These</p>

TSD Section 4.1 Question	Objective Satisfied?	Comments
		findings closed AZIWO1112.
10) Is the ability to make a change on a pending order that requires dispatch substantially the same for both a Pseudo-CLEC service representative and for a Qwest service representative?	N/A	<p>Both the resale and retail systems provide the ability to make a change on a pending order that requires dispatch.</p> <p>During the interim RPE workshop discussions, it was determined this functionality could not be tested due to the design of the RPE.</p>
11) Is substantially the same ability provided to both the Pseudo-CLEC service representative and the Qwest service representative to query status of a pending service order?	Y	<p>Both the resale and retail systems provide the ability to check the status of an order at any time through order completion.</p> <p>As a result of the Functionality retest and the Retail Parity re-evaluation, CGE&Y found that the statuses returned were clear concise messages to inform the Pseudo-CLEC what stage the order was in. The messages returned are as follows:</p> <ul style="list-style-type: none"> ➤ A FOC has been issued. ➤ The Service Request was assigned to a service representative. ➤ The Service Request has an error condition. ➤ Service Order Issued for provisioning <p>It is CGE&Y's finding that both the resale and retail representatives have</p>

TSD Section 4.1 Question	Objective Satisfied?	Comments
		substantially the same ability to status a pending order, but the quality of information returned to the resale representative is more clear and concise than that which is returned to the retail representative.
12) For "working left-in" situations, does IMA-GUI provide the Pseudo-CLEC service representative substantially the same amount of status information as is provided to the Qwest service representative?	Y	Resale Facility Availability queries were found to produce substantially the same results as retail queries conducted during the same timeframe. "Working left-in" lines were so designated in all cases. (DR-193)
13) Are the hours of system availability substantially the same for Pseudo-CLEC service representatives and for Qwest service representatives?	Y	System hours of availability are substantially the same for resale and retail. (DR-168)
14) Are the edit and error checking capabilities available to CLECs using the IMA-GUI interface to create orders substantially the same to the capabilities of a Qwest customer service representative using the retail interfaces?	Y	Both resale and retail systems provide error checking and responses to indicate the errors. During the Retail Parity re-evaluation, CGE&Y evaluated the error messages generated in IMA-GUI when there was an error on an LSR. The error messages were captured in screen prints and are clear and concise. The error messages tell the resale representative what section (LSR, EU, Resale, etc. form) and field (APTCN, TOA, AGAUTH, etc.) on the LSR the error is contained in. It is CGE&Y's opinion that the edit and error

TSD Section 4.1 Question	Objective Satisfied?	Comments
		<p>checking capabilities of IMA-GUI are sufficient for the resale representative to identify and correct any errors on a LSR.</p> <p>There were no errors encountered when submitting the retail orders.</p>

The following MTP and TSD exit criteria were met for the IMA-GUI pre-order/order test:

Criterion	Completed
All completed Retail Parity test scripts were processed, collected and retained by CGE&Y.	✓
The collected data were analyzed by CGE&Y.	✓
The findings from CGE&Y's analysis were documented in the RPE Report.	✓
Identified interface and system errors were resolved via the Master Issues Log Process and/or the IWO process.	✓
All expected results, including issue and IWO resolutions, were achieved.	✓

3.2 IMA-GUI Maintenance and Repair

3.2.1 Introduction

The IMA-GUI Maintenance and Repair evaluation was structured to evaluate the mechanized M&R capability available to a CLEC representative (resale) using Qwest OSS interfaces and that available to a Qwest representative (retail) using the equivalent internal Qwest OSS interfaces when performing similar activity. The evaluation compared a CLEC's ability to perform the M&R transactions on an end-user's line or circuit with the Qwest retail equivalent transactions.

Note: Subsequent to completion of this evaluation, the IMA-GUI M&R has been replaced with the CEMR system.

3.2.2 Scope

The test included the following transactions for evaluation:

Transactions	M&R
Open Trouble Report	X
Retrieve Circuit/Trouble History	X
Perform MLT	X
Status Trouble	X

The evaluation methods for the M&R transactions are explained below:

- ❑ Open Trouble Report: query response times, quality of information provided, and number of steps required to complete the query were observed, documented, and compared between Qwest retail interfaces and IMA-GUI
- ❑ Retrieve Circuit/Trouble History: query response times, quality of information provided, and number of steps required to complete the query were observed, documented, and compared between Qwest retail interfaces and IMA-GUI
- ❑ Perform MLT: query response times, quality of information provided, and number of steps required to complete the query were observed, documented, and compared between Qwest retail interfaces and IMA-GUI
- ❑ Status Trouble: query response times, quality of information provided, and number of steps required to complete the query were observed, documented, and compared between Qwest retail interfaces and IMA-GUI

3.2.3 Process

Test cases for M&R on which qualitative, quantitative and timeliness measures could be collected were taken from a subset of the test scenarios identified in Appendix A of the MTP. All M&R test cases were executed during Phase I.

External constraints were imposed on the total number of RPE iterations. In order to have a statistical design sufficiently powerful to detect substantial differences, and still remain within the total sample size constraint, it was decided to focus the sufficiently powered statistical evaluation on the pre-order queries. As a result, the analysis of M&R query response timeliness is insufficiently powered to detect moderate overall differences or even large differences in subgroups of the total M&R RPE sample. Rather, the focus of this timeliness analysis is only directional and there is therefore no need for a

phased approach in the M&R RPE. Nonetheless, a limited statistical analysis on the data collected is provided herein.

Paired resale and retail test scripts⁴¹ were developed from the test cases. Each resale test script had a corresponding retail test script, enabling a comparison between IMA-GUI and the equivalent retail systems. Each paired test script was given the same case description. The case descriptions included:

- addresses in the same wire centers
- the same number of lines
- the same account type (Residence or Business)
- the same service type (e.g., POTS, ISDN-BRI)

Each test script executed only those M&R transactions applicable to the test case description.

In order to control the execution of the RPE test, each script contained step-by-step instructions to the service representative for data entry, collection of screen prints, and performing and collecting requested transaction timings. CGE&Y monitored, on-site, the retail service representative and the resale service representative during the execution of each test script. The timing of paired test script execution was synchronized so that both the resale and retail activities required by the scripts occurred during the same morning/afternoon hours of the same business day.

Qualitative measures were used where an exact means of comparison was not possible. Quantitative measures were used where "apples-to-apples" comparisons of data elements were possible. Timeliness measures were used where measurable elapsed timeframes were available. Measures included query response times, quality of information provided, and number of fields and steps required to complete the transaction.

All three measures were applied to applicable M&R transactions performed during paired resale and retail test script execution.

The following MTP and TSD entrance criteria were met prior to commencing the IMA-GUI M&R test:

Criterion	Completed
The Pseudo-CLEC received Readiness Certification from Qwest.	✓
Qwest and the Pseudo-CLEC interfaces and systems (IMA-	

⁴¹ CGE&Y Archive File: RPE #9 - P-I M&R Test Scripts

Criterion	Completed
GUI and retail equivalent) were operational and stable.	✓
CGE&Y was granted access to the appropriate Qwest site(s) to conduct the on-site testing and monitoring. This included the creation of security badges and access to facilities and equipment that would permit controlled observation of Qwest service representative M&R activities.	✓
CGE&Y was granted access to the appropriate Pseudo-CLEC site(s) to conduct the on-site testing and monitoring. This included the creation of security badges to secure locations and access to private test performance monitoring facilities and equipment whenever available.	✓
A Daily Test Order Monitoring Schedule was created by CGE&Y.	✓
CGE&Y members responsible for on-site monitoring were provided with on-site telephone access for use in communication with other CGE&Y members.	✓
Retail Parity test scripts were created by CGE&Y.	✓
The Pseudo-CLEC's ability to collect data during performance of CGE&Y provided test scripts was verified.	N/A*
CGE&Y's ability to access test data collected by the Pseudo-CLEC during performance of CGE&Y provided test scripts was verified.	N/A*
Valid account data were received from Qwest.	✓
Test data elements that define the Pseudo-CLEC for purposes of permitting interface activities with Qwest were populated in the necessary databases.	✓
The number of test iterations was identified.	✓
Test cases and iterations that were to be used to perform the evaluations were completed and available.	✓

* CGE&Y Test Monitor collected data

3.2.4 Results

Following is a table presenting the raw data for the 18 matched resale and retail individual M&R queries performed as part of the RPE:

Market	Query	Lines	Prod	Resale				Retail			
				Fields	Steps	Seconds	Timings	Fields	Steps	Seconds	Timings
RES	MLT	1	POTS	3	6	205	1	3	7	3	1
RES	Tkt	1	POTS	12	10	5	2	3	13	9	1
RES	History	1	POTS	1	4	47	1	0	3	11	1
RES	Status	1	POTS	3	4	4	1	1	5	3	1
BUS	MLT	1	POTS	4	7	3	1	3	7	1	1
BUS	Tkt	1	POTS	11	6	1	1	3	14	2	1
BUS	History	1	POTS	1	4	25	1	0	3	1	1
BUS	Status	1	POTS	3	4	4	1	1	5	1	1
BUS	Tkt	9	CTX	11	6	2	2	3	15	2	1
BUS	Status	9	CTX	3	4	4	1	1	5	3	1
BUS	Tkt	5	PBX	11	6	1	1	3	11	63	1
BUS	Status	5	PBX	3	4	3	1	1	5	3	1
RES	Tkt	1	ISDN	9	8	1	1	8	7	1	1
RES	Status	1	ISDN	3	4	4	1	2	6	7	2
BUS	Tkt	1	ISDN	9	8	3	2	10	7	3	1
BUS	Status	1	ISDN	3	4	4	1	2	6	7	2
BUS	Tkt	1	PvtLin e	9	8	2	1	7	7	3	1
BUS	Status	1	PvtLin e	3	4	3	1	2	6	8	2

The above table seems to indicate that the number of fields and steps is approximately the same or fewer for resale than for retail, except for the number of fields required to create a ticket (work order) for non-designed services (POTS, CTX, PBX), where 11 or 12 fields need to be entered for resale as compared to 3 for retail.

As described more fully in Section 3.1.4.1, the individual recorded timings used to compile the above table are on average a half second shorter than the true response time. In the analysis below, this is corrected for by adding a half-second multiplied by the number of timings to each of the above response times.

Unlike pre-order and order queries, M&R queries do not have to be processed by the Business Process Layer and Fetch N' Stuff. (DR-218) M&R queries are forwarded directly from the MEDIACC gateway for processing by Loop Maintenance Operations System (LMOS) and Work Force Administration (WFA). There is much more similarity between the resale and retail M&R processes involved on an individual query basis than for pre-order queries. This enables an analysis based on individual M&R query response times. The following table indicates the timeliness results main effects for the M&R queries scenarios examined in Phase I:

Prod	Market	Query	Lines	n	resale_t	retail_t	ratio	effect	std_d	delta	t	crit_t	p_value
				18	18.42	7.86	1.24	0.22	1.61	0.14	0.58	1.74	0.2857
			1	14	22.79	4.89	1.68	0.52	1.44	0.36	1.34	1.77	0.1009
			5	2	2.50	33.50	0.15	-1.87	2.65	-0.71	-1.00	6.31	0.7500
			9	2	3.75	3.00	1.24	0.22	0.05	4.44	6.29	6.31	0.0502
		History		2	36.50	6.50	8.38	2.13	1.00	2.12	3.01	6.31	0.1023
		MLT		2	104.50	2.50	11.70	2.46	2.28	1.08	1.53	6.31	0.1847
		Status		7	4.21	5.29	0.93	-0.07	0.69	-0.10	-0.27	1.94	0.6022
		Tkt		7	2.86	12.36	0.51	-0.68	1.38	-0.49	-1.30	1.94	0.8786
	BUS			12	5.17	8.67	0.94	-0.06	1.53	-0.04	-0.14	1.80	0.5563
	RES			6	44.92	6.25	2.19	0.78	1.76	0.45	1.09	2.02	0.1625
CNTX				2	3.75	3.00	1.24	0.22	0.05	4.44	6.29	6.31	0.0502
ISDN				4	3.63	5.25	0.78	-0.25	0.37	-0.68	-1.36	2.35	0.8661
PBX				2	2.50	33.50	0.15	-1.87	2.65	-0.71	-1.00	6.31	0.7500
POTS				8	37.31	4.38	3.30	1.19	1.59	0.75	2.12	1.89	0.0356
Pvt Line				2	3.00	6.25	0.53	-0.64	0.43	-1.49	-2.11	6.31	0.8589

The first row indicates that over all of the 18 individual M&R queries conducted in Phase I, without regard to their unique factors, resale response times were about 24% longer than retail response times.⁴² This difference is neither substantial nor statistically significant per the TSD Statistical Approach.

A generally similar pattern is observed for most of the main effect rows.

The major exception to this is consideration of all eight individual POTS queries. These results (second to the last row in the above table) indicate that response to resale M&R queries on POTS services takes about 3.3 times as long as to retail M&R queries on POTS services. The observed difference is both substantial and statistically significant. However, as it is based on only eight observations, which are actually on only two M&R ticket scenarios,⁴³ and is not part of a consistent pattern across the very limited number of M&R queries, this should not be viewed as evidence of disparity.

The sample size is also much too small to consider Service – Query combinations, as each of these has only one or two queries.

For illustrative purposes only, the M&R resale and retail query response times are presented by Service and Query Type in Figure 3.2.4a and Figure 3.2.4b:

⁴² Although the average response times seem to indicate a higher ratio, 18 seconds versus 8, this is misleading because the difference in averages has been overly influenced by the single MLT POTS RES result of 205.5 seconds for resale versus 3.5 seconds for retail. As statistical comparisons on timeliness measures are performed on transformed values to stabilize the variance and symmetrize the distribution, it is more appropriate to look at the column labeled “effect,” which for interpretive purposes can be exponentiated to form the ratio column. This is the antilog of the average of the differences in log-times, which is not the same as the ratio of the average difference in times, but is a more useful characterization of the timing differences.

⁴³ This violates the uncorrelated errors assumption required for the t-test, as the MLT and History were performed at about the same time, as were the Ticket submission and Status.

Figure 3.2.4a: M&R Transaction Response Time — Resale vs Retail by Service

Each point is a test case result: horizontal axis value is the retail result, vertical axis value is Resale result
 Diagonal Line indicates parity performance
 Points above and to the left of diagonal indicate test cases with longer Resale response times than Retail
 Points below and to the right of diagonal indicate test cases with shorter Resale response times than Retail

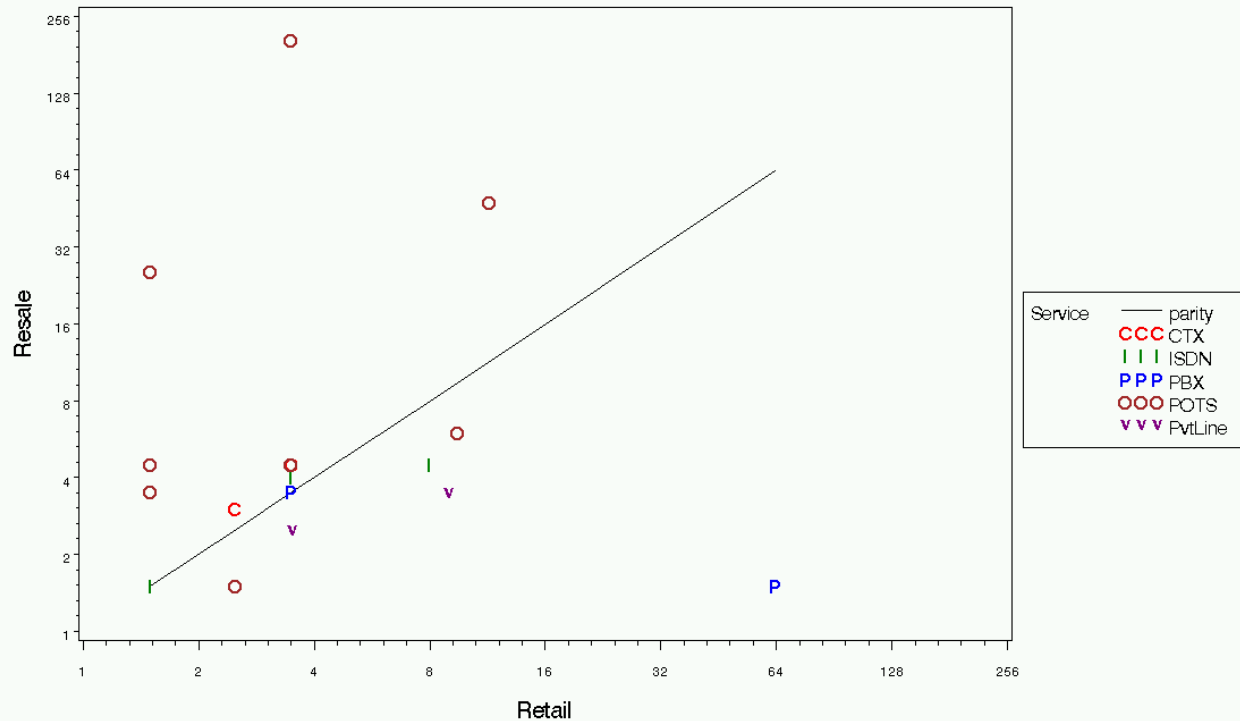
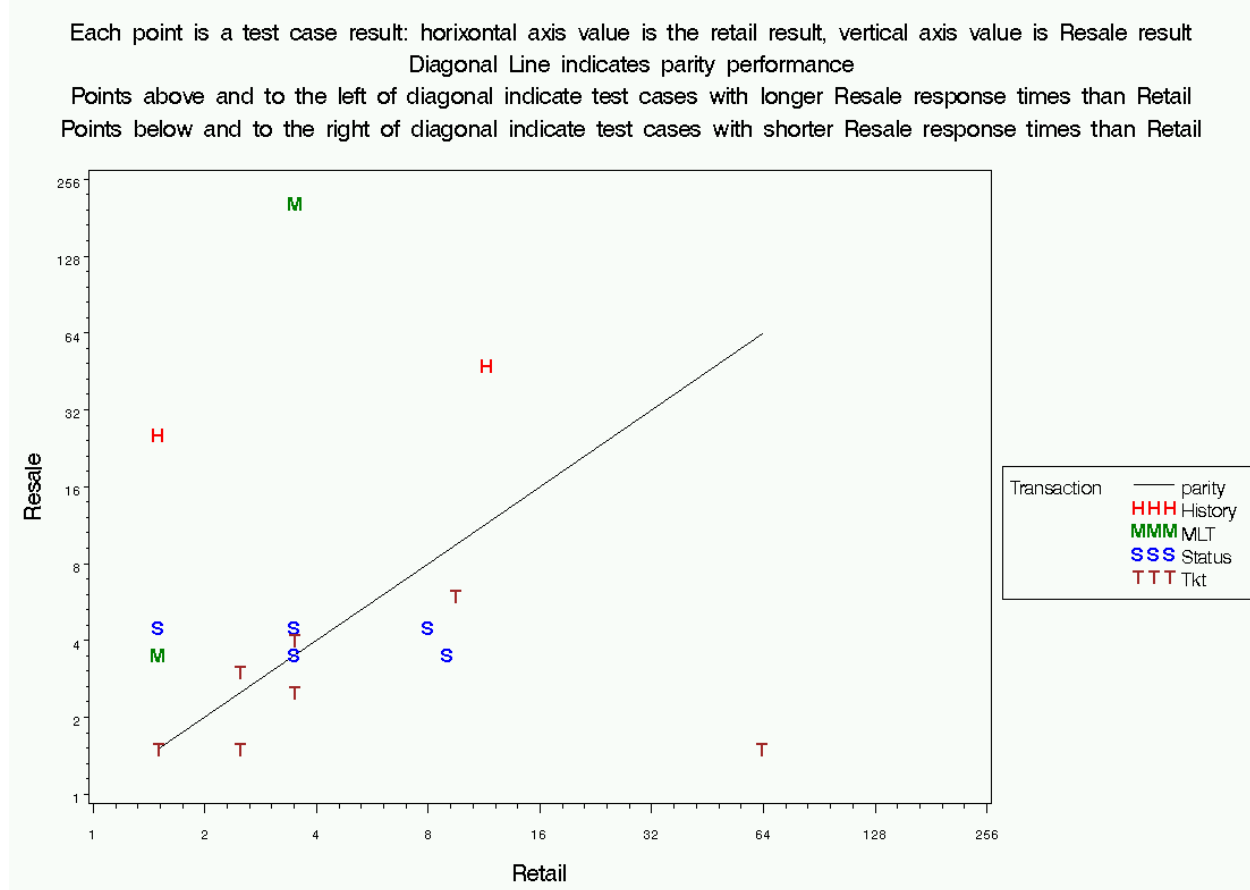


Figure 3.2.4b: M&R Transaction Response Time — Resale vs Retail by Transaction Type



As is apparent from the above table and Figure 3.2.4b, creating a ticket and getting its status doesn't take longer for resale than retail. As stated above in this section, M&R transactions are accepted by the MEDIACC gateway and are forwarded to LMOS and WFA without having to go through the Business Process Layer and Fetch N' Stuff as pre-order and order transactions do. However, performing an MLT and obtaining a ticket's history appears to take substantially longer (about 10 times as long⁴⁴).

As the minimum individual M&R query response time is the same, 1.5 seconds, for both resale and retail, there is no basis to conclude that there may be extra resale security validation time consistently across all query types and services, so no maximal adjustment re-analysis was performed for M&R.

The M&R scenarios were performed primarily to determine that the response to these queries provided comparable information to both resale and retail.

⁴⁴ Based on the ratio column in the transaction type table. Although the average response times seem to indicate a higher ratio, 18 seconds versus 8, this is misleading because the difference in averages has been overly influenced by the single MLT POTS RES result of 205.5 seconds for resale versus 3.5 seconds for retail. As statistical comparisons on timeliness measures are performed on transformed values to stabilize the variance and symmetrize the distribution, it is more appropriate to look at the column labeled "effect," which for interpretive purposes can be exponentiated to form the ratio column. This is the antilog of the average of the differences in log-times, which is not the same as the ratio of the average difference in times, but is a more useful characterization of the timing differences.

CGE&Y was able to verify that the functionality provided to both resale and retail was substantially the same. For example, the functions necessary for resale to open a trouble ticket were the same for retail. Comparable MLT results were received for both resale and retail. Upon request, trouble history was available to both resale and retail along with trouble ticket status. The timeliness data gathered directionally supports parity for the queries of issuing a ticket and obtaining its status. The functionality test will address M&R test scenarios in quantity in addition to actual trouble conditions experienced by the Pseudo CLEC's end-user customers. Performance measurement data specific to M&R will be gathered, calculated, analyzed and reported in the functionality section of the Final Report.

The number of steps and fields over all the transactions and services tested is similar or fewer for resale than retail, except for issuing a ticket on non-designed services, where 11-12 fields are required for resale versus 3 for retail.

The following MTP and TSD exit criteria were met for the IMA-GUI M&R test:

Criterion	Completed
All completed Retail Parity test scripts were processed, collected and retained by the CGE&Y.	✓
The collected data were analyzed by CGE&Y.	✓
The findings from CGE&Y's analysis were documented in the RPE Report.	✓
Identified interface and system errors were resolved via the Master Issues Log Process and/or the IWO process.	✓
All expected results, including issue and IWO resolutions, were achieved.	✓

3.3 EDI Pre-Order/Order

3.3.1 Introduction

The EDI pre-order/order evaluation was structured to evaluate the mechanized service request capability available to a CLEC representative (resale) using Qwest OSS interfaces and that available to a Qwest representative (retail) using the equivalent internal Qwest OSS interfaces when performing similar activity. The evaluation compared a CLEC's ability to process pre-order queries and submit LSRs with the Qwest retail equivalent transactions.

3.3.2 Scope

The test included the following transactions for evaluation:

Transactions	Order Type		
	New	Change	Conv / Win Back
Address Validation	X	X	X
CSR Validation		X	X
TN Selection	X		
Service Availability	X	X	
Facility Availability	X		
Appointment Scheduler	X	X	
Create and Submit LSR	X	X	X

The evaluation methods for the pre-order/order transactions are explained below:

- ❑ Address Validation: quality of information provided was observed, documented, and compared between Qwest retail interfaces and EDI
- ❑ CSR Validation: quality of information provided via EDI was observed and documented
- ❑ TN Selection: quality of information provided was observed, documented, and compared between Qwest retail interfaces and EDI
- ❑ Service Availability: quality of information provided via EDI was observed and documented
- ❑ Facility Availability: quality of information provided was observed, documented, and compared between Qwest retail interfaces and EDI
- ❑ Appointment Scheduler: quality of information provided was observed, documented, and compared between Qwest retail interfaces and EDI
- ❑ Create and Submit LSR: the extent of pre-order to order integration provided for submission of an LSR was compared between EDI and the functional retail equivalents

3.3.3 Process

Test cases for pre-order and order on which qualitative measures could be collected were taken from a subset of the test scenarios identified in Appendix A of the MTP.

Paired resale and retail test scripts⁴⁵ were developed from the test cases. Each resale test script had a corresponding retail test script, enabling a comparison between the resale systems (EDI) and the equivalent retail systems. Each paired test script was given the same case description. The case descriptions included:

- addresses in the same wire centers
- the same number of lines
- the same account type (Residence or Business)
- the same service type (e.g., POTS, ISDN-BRI)
- the same service attributes (e.g., number of lines, features)
- the same activity (e.g., New Connect, Change, Conversion/Win back)

Each test script executed only those pre-order and order transactions applicable to the test case description.

In order to control the execution of the RPE test, each script contained step-by-step instructions to the service representative for data entry, collection of screen prints, and performing and collecting requested transaction timings. CGE&Y monitored the retail service representative and the resale service representative during the execution of each test script. The paired test script execution was synchronized so that both the resale and retail activities requested by the scripts occurred during the same morning/afternoon hours of the same business day.

Per Section 4.1 of the TSD, only qualitative and quantitative test measures were applied to EDI/EB-TA test script execution.

Per Section 4.5 of the TSD, captured input data were compared to ensure that both performed substantially the same queries and similarly compared the data that were returned for the query.

The following MTP and TSD entrance criteria were met prior to commencing the EDI pre-order/order evaluation:

Criterion	Completed
The Pseudo-CLEC received Readiness Certification from Qwest.	✓
Qwest and the Pseudo-CLEC interfaces and systems (EDI and retail equivalent) were operational and stable.	✓
CGE&Y was granted access to the appropriate Qwest site(s) to conduct on-site testing and monitoring. This included the creation of security badges and access to facilities and	✓

⁴⁵ CGE&Y Archive File: RPE #10 - P-II EDI Test Scripts

Criterion	Completed
equipment that would permit controlled observation of Qwest service representative pre-order and order activities.	
CGE&Y was granted access to the appropriate Pseudo-CLEC site(s) to conduct on-site testing and monitoring. This included the creation of security badges to secure locations and access to private test performance monitoring facilities and equipment whenever available.	✓
A Daily Test Order Monitoring Schedule was created by CGE&Y.	✓
CGE&Y members responsible for on-site monitoring were provided with on-site telephone access for use in communication with other CGE&Y members.	✓
Retail Parity test scripts were created by CGE&Y.	✓
The Pseudo-CLEC's ability to collect data during performance of CGE&Y provided test scripts was verified.	N/A [*]
CGE&Y's ability to access test data collected by the Pseudo-CLEC during performance of CGE&Y provided test scripts was verified.	N/A [*]
Valid account data were received from Qwest.	✓
Test data elements that define the Pseudo-CLEC for purposes of permitting interface activities with Qwest were populated in the necessary databases.	✓
The number of test iterations was identified.	✓
Test cases and iterations that were to be used to perform the evaluations were completed and available.	✓

3.3.4 Results

Per Section 4.5 of the TSD, the comparative evaluation of data was limited to the number, type and quality of data elements returned (no timeliness measure was used for this evaluation).

^{*} CGE&Y Test Monitor collected data

CGE&Y compared the quality of information presented to both resale and retail pre-order and order transactions. The focus of the evaluation was to determine whether both resale and retail were able to retrieve equivalent information from Qwest's OSS, such as similar appointment times, requested TNs, etc.

The evaluation showed that the quality and quantity of information obtained through EDI pre-order queries was substantially the same as that obtained by Qwest through similar queries, and that the overall experience in submitting an order was also substantially the same for both.

The results of this evaluation are further summarized in the following table:

TSD Section 4.1 Question	Objective Satisfied?	Comments
1) Does the Pseudo-CLEC service representative experience substantially the same likelihood that the order's original due date, reserved TN and selected features will remain unchanged once it is accepted by the SOP, and through receipt of FOC for resale orders, versus that which is experienced by the Qwest service representative?	Y	The resale and retail test scripts experienced no changes to an order's original due date, reserved TN or selected features through acceptance by the SOP (retail), and through receipt of a FOC (resale). NOTE: Per Section 5.2 of the MTP, "...once the order has been submitted, it is only necessary to run the Retail Parity Evaluation through the ordering processes or through submission of a trouble report. Consequently, the Retail Parity Evaluation activities will be cancelled in the SOP."
2) For service to be installed in the same serving area, are substantially the same reported facilities available for the Qwest service representative and the Pseudo-CLEC service representative?	Y	Resale Facility Availability queries were found to produce substantially the same results as retail queries conducted during the same timeframe and in the same geographic area.
3) Is the procedure used to reserve large blocks of TNs substantially the same for both a Pseudo-CLEC service representative and a Qwest service representative?	Y	The procedure to reserve large blocks of TNs required a manual process for both resale and retail for the same geographic area. (DR-192)

TSD Section 4.1 Question	Objective Satisfied?	Comments
4) For service to be installed in the same serving area, are substantially the same due date intervals experienced by the Qwest service representative and the Pseudo-CLEC service representative?	Y	Resale Appointment Scheduling queries were found to produce substantially the same results as retail queries conducted during the same timeframe geographic area.
5) Is substantially the same opportunity provided to the Pseudo-CLEC service representative and the Qwest service representative to request extended due dates (due dates longer than thirty days into the future)?	Y	Test scripts were successfully conducted requesting due dates of 45 days from the date of order submission for both resale and retail.
6) Is substantially the same ability provided to both the Pseudo-CLEC service representative and the Qwest service representative to query status of a pending service order?	Y	Both the resale and retail systems provide the ability to check the status of an order at any time through order completion.
7) For "working left-in" situations, does EDI provide the Pseudo-CLEC service representative substantially the same amount of status information as is provided to the Qwest service representative?	Y	Resale Facility Availability queries were found to produce substantially the same results as retail queries conducted during the same timeframe. "Working left-in" lines were so designated in all cases. (DR-193)
8) Are the hours of system availability substantially the same for Pseudo-CLEC service representatives and for Qwest service representatives?	Y	System hours of availability are substantially the same for resale and retail. (DR-168)
9) Are the edit and error checking capabilities available to CLECs using the EDI interface to create orders substantially the same to the capabilities of a Qwest service representative using the retail interfaces?	Y	Both resale and retail systems provide error checking and responses to indicate the errors.

The following MTP and TSD exit criteria were met for the EDI pre-order/order evaluation:

Criterion	Completed
All completed Retail Parity test scripts were processed, collected and retained by CGE&Y.	✓
The collected data were analyzed by CGE&Y.	✓
The findings from CGE&Y's analysis were documented in the RPE Report.	✓
Identified interface and system errors were resolved via the Master Issues Log Process and/or the IWO process.	✓
All expected results, including issue and IWO resolutions, were achieved	✓

3.4 EB-TA Maintenance and Repair

3.4.1 Introduction

The EB-TA Maintenance and Repair evaluation was structured to evaluate the mechanized M&R capability available to a CLEC representative (resale) using Qwest OSS interfaces and that available to a Qwest representative (retail) using the equivalent internal Qwest OSS interfaces when performing similar activity. The evaluation compared a CLEC's ability to perform the M&R transactions on an end-user's line or circuit with the Qwest retail equivalent transactions. For the purposes of the EB-TA M&R test, "Pseudo-CLEC" refers to the participating CLEC.

3.4.2 Scope

The test included the following transactions for evaluation:

Transactions	M&R
Open Trouble Report	X
Retrieve Circuit/Trouble History	X
Perform MLT	X
Status Trouble	X

The evaluation methods for the EB-TA M&R transactions are explained below:

- ❑ Open Trouble Report: quality of information provided was observed, documented, and compared between Qwest retail interfaces and EB-TA

- ❑ Retrieve Circuit/Trouble History: quality of information provided was observed, documented, and compared between Qwest retail interfaces and EB-TA
- ❑ Perform MLT: quality of information provided was observed, documented, and compared between Qwest retail interfaces and EB-TA
- ❑ Status Trouble: quality of information provided was observed, documented, and compared between Qwest retail interfaces and EB-TA

3.4.3 Process

Paired resale and retail test scripts⁴⁶ were developed using Friendly test lines. Each resale test script had a corresponding retail test script, enabling a comparison between EB-TA and the equivalent retail systems. Each paired test script was given the same case description. The case descriptions included:

- End-user address
- TN on which test was to be run
- Action to be accomplished (e.g., open trouble ticket, perform MLT)

In order to control the execution of the EB-TA M&R test, each script contained step-by-step instructions to the service representative for data entry and the collection of screen prints. CGE&Y monitored, on-site, the retail service representative and the resale service representative during the execution of each test script. The timing of paired test script execution was synchronized so that both the resale and retail activities requested by the scripts occurred during the same morning/afternoon hours of the same business day.

Per Section 4.1 of the TSD, only qualitative and quantitative test measures were applied to EDI/EB-TA test script execution.

Per Section 4.5 of the TSD, captured input data were compared to ensure that both performed substantially the same queries and similarly compared the data that were returned for the query.

The following MTP and TSD entrance criteria were met prior to commencing the EB-TA M&R test:

Criterion	Completed
The Pseudo-CLEC received Readiness Certification from Qwest.	N/A *
Qwest and the Pseudo-CLEC interfaces and systems (EB-TA)	✓

⁴⁶ CGE&Y Archive File: RPE #11 - P-II EB-TA Test Scripts

* A participating CLEC was used for the EB-TA evaluation.

Criterion	Completed
and retail equivalent) were operational and stable.	
CGE&Y was granted access to the appropriate Qwest site(s) to conduct the on-site testing and monitoring. This included the creation of security badges and access to facilities and equipment that would permit controlled observation of Qwest service representative M&R activities.	✓
CGE&Y was granted access to the appropriate Pseudo-CLEC site(s) to conduct the on-site testing and monitoring. This included the creation of security badges to secure locations and access to private test performance monitoring facilities and equipment whenever available.	✓
A Daily Test Order Monitoring Schedule was created by CGE&Y.	✓
CGE&Y members responsible for on-site monitoring were provided with on-site telephone access for use in communication with other CGE&Y members.	✓
Retail Parity test scripts were created by CGE&Y.	✓
The Pseudo-CLEC's ability to collect data during performance of CGE&Y provided test scripts was verified.	N/A *
CGE&Y's ability to access test data collected by the Pseudo-CLEC during performance of CGE&Y provided test scripts was verified.	N/A *
Valid account data were received from Qwest.	✓
Test data elements that define the Pseudo-CLEC for purposes of permitting interface activities with Qwest were populated in the necessary databases.	✓
The number of test iterations was identified.	✓
Test cases and iterations that were to be used to perform the evaluations were completed and available.	✓

* CGE&Y Test Monitor collected data

* CGE&Y Test Monitor collected data

3.4.4 Results

The EB-TA M&R scenarios were performed primarily to determine that the response to these transactions provided comparable information to both resale and retail. CGE&Y was able to verify that the functionality provided to both retail and resale was substantially the same. For example, the functions necessary for resale to open a trouble ticket were the same for retail and the data input requirements (i.e., TN, address, customer name, trouble code and description, contact information) were substantially the same. The resale trouble ticket is transmitted to Qwest through the ETTR ticket menu. If the transmission is successful, the frame containing the phrase “ticket has been successfully created” is received; if the transmission is unsuccessful, a message explaining what information is missing in order to create a ticket or why the ticket was not created is received. Comparable MLT results were received for both resale and retail. Trouble history and trouble ticket statusing were available to both resale and retail.

The functionality test will address M&R test scenarios in quantity in addition to actual troubles experienced by the Pseudo-CLEC’s end-user customers. Performance measurement data specific to M&R will be gathered, calculated, analyzed and reported in the functionality section of the Final Report.

In the professional opinion of CGE&Y the quality and quantity of information obtained through EB-TA M&R transactions were substantially the same as that obtained by Qwest through similar transactions, and that the overall experience in submitting M&R transactions was also substantially the same for both.

The following MTP and TSD exit criteria were met for the EB-TA M&R test:

Criterion	Completed
All completed Retail Parity test scripts were processed, collected and retained by CGE&Y.	✓
The collected data were analyzed by CGE&Y.	✓
The findings from CGE&Y’s analysis were documented in the RPE Report.	✓
Identified interface and system errors were resolved via the Master Issues Log Process and/or the IWO process.	✓
All expected results, including issue and IWO resolutions, were achieved.	✓

4. Capacity Test

Introduction

As part of the certification of Qwest to provide non-discriminatory access to its OSS, CGE&Y was engaged to conduct a Capacity Test.

The purpose of the Capacity Test was to determine whether Qwest's OSS and processes can handle both current as well as reasonably foreseeable future volumes of pre-order and order transactions, all while meeting established benchmarks intended to evaluate levels of performance.

Approach

The Capacity Test was performed in accordance with Section 6 of the Master Test Plan, Version 4.2 dated June 29, 2001 (MTP 4.2), and Section 5 of the Test Standards Document, Version 2.10, dated September 6, 2001 (TSD 2.10). As an entrance criterion to the Capacity Test, a detailed test plan was developed (see Section 5.2.4(a) of the TSD 2.10). A Capacity Subcommittee was formed as a sub-group of the Arizona TAG to deal with the technical issues associated with the Capacity Test and to take into consideration commercial conditions. The Capacity Subcommittee consisted of participants from ACC, DCI, CGE&Y, HP, Qwest, WorldCom, and AT&T with occasional representation from other TAG members. Admission to the Subcommittee was open to all TAG members. The System Capacity Test Detailed Plan, Version 2.02, dated July 25, 2001 (SCTDP 2.02), developed by CGE&Y with input from the Capacity Subcommittee, was the governing document for the execution of the System Capacity Test, which includes the Stress Test.

Three main areas were covered by the Capacity Test: the System Capacity Test, a System Scalability review and a Staff Scalability review.

System Capacity Test

The System Capacity Test was designed to determine whether Qwest's current OSS are sufficient to process forecasted volume 12 months from the date of the test. The test was conducted in a production environment, and supplemented existing production loads to arrive at the anticipated forecasted volume. The System Capacity Test extended over an eleven-hour time frame, commencing at 7:00 a.m. Mountain Standard Time (MST) on August 10, 2001, and ending at 6:00 p.m. MST. A total of 21,500 pre-order transactions were executed consisting of 18,316 EDI and 3,184 GUI transactions. A total of 4,915 LSRs were submitted of which 4,217 were submitted through EDI and 698 through GUI.

The System Capacity Test also included a stress test, which placed an additional load equal to 150% of the 12-month test's busy hour load to current production volumes. These loads were incrementally increased over a short time period. The purpose of this test was to gather and evaluate performance measurement data during each of these time periods in

order to determine the processing volume at which Qwest's OSS performance begins to deteriorate. The stress test was performed over a four-hour period, 9:00 a.m. MST through 1:00 p.m. MST, and was conducted on August 17, 2001. A total of 14,387 pre-order transactions were executed consisting of 12,053 EDI and 2,334 GUI transactions. A total of 3,121 LSRs were submitted of which 2,686 were submitted through EDI and 435 through GUI.

The System Capacity Test was originally intended to evaluate whether Qwest's systems could meet benchmark standards set for pre-order transactions (PO-1), percent order flow-through (PO-2) and Firm Order Confirmations (FOCs) (PO-5) given the increased load. However, by definition, all System Capacity Test orders were designed to flow through or were specifically intended to fall out for manual intervention. Therefore by agreement of the Subcommittee, the System Capacity Test was limited in scope to evaluation of the PO-1 and PO-5 measures.

The success criteria for the System Capacity Test as defined in the Detailed Test Plan is as follows:

- 12 Month volumes: meet PO-1 and PO-5 benchmarks or pass scalability review
- 9 Month volumes: meet PO-1 and PO-5 benchmarks or pass scalability review
- 6 Month volumes: meet PO-1 and PO-5 benchmarks and pass scalability review
- Stress Test: diagnostic only

Since Qwest systems met the benchmark at the 12-month volumes, additional tests at the lower volumes as defined in the TSD were not performed.

Currently, Qwest does not measure actual CLEC pre-order transactions to report results for PO-1, but instead uses a simulated transaction system known as IMA Response Time Measurement (IRTM). An integral part of the System Capacity Test was to collect actual response times experienced by the Pseudo-CLEC in order to compare results during the System Capacity Test to those reported by Qwest using IRTM. These data did not refute the assertion that results generated from Qwest's simulated system are a true representation of pre-order transaction response times experienced by CLEC service representatives.

The first task of the Capacity Subcommittee was to determine the volumes to be used for the test. These volumes included expected demand for the entire Qwest 14-state region for those systems that support all 14 states. Regional systems were tested for volumes supporting that region. After the Subcommittee agreed upon volumes those volumes were submitted to the TAG for approval. Simultaneously, other aspects of the test plan, including order transaction mix, distribution between EDI and GUI, etc., were developed by the Subcommittee. Qwest provided CGE&Y with test accounts, which were then used for the various scenarios. After preparation activities for the test were complete, several Operational Readiness Tests (ORTs) were performed to ensure that all orders would flow through as anticipated and that the necessary processes to perform the test and gather the data generated were in place and functional. Once Qwest's systems successfully passed the 12-month test, the busy hour volume was used as the base for the stress test. This volume

was incremented in 15-minute intervals until a volume 50% higher than the base volume was reached. This higher volume was input at a sustained rate for two hours.

System Scalability

The System Scalability review evaluated whether Qwest's processes, procedures and planning tools could adequately manage the ability of its OSS to scale for anticipated larger workloads. The review included the evaluation of Qwest's procedures for capacity expansion to determine if adequate procedures are in place for scaling Qwest's systems to provide sufficient capacity to handle future CLEC loads. This review also evaluated the backup plans, disaster recovery plans and other procedures that guide Qwest's staff in executing the OSS interface capacity planning.

As part of the System Scalability review, CGE&Y obtained Qwest's procedures for tracking OSS loads and capacities, forecasting future OSS loads and providing OSS computer growth in an effort to understand system architecture and gain knowledge of the capacity adjustment procedures used within Qwest. This information was necessary in order for CGE&Y to assess whether Qwest's OSS interfaces could be scaled in a timely manner to accommodate increases in CLEC volumes.

Staff Scalability

The Staff Scalability review evaluated whether Qwest has the capability to adjust its workforce to meet future CLEC order volumes requiring manual intervention. As part of the staff scalability review, CGE&Y evaluated whether Qwest's staff planning process was sufficient in terms of the number of staff, the facilities in which to house the staff and the training necessary to bring new personnel up to the required level of productivity.

In conducting its evaluation, CGE&Y reviewed Qwest's support center workforce development modeling procedures and the link between future volume projections and workforce modeling procedures. Support centers were evaluated for their ability to respond to increased workloads and to provide adequate resources to handle the manual processing of non-flow-through LSRs. Contingency plans to meet unforeseen increases in order volume, and Qwest's disaster recovery plans to ensure continued CLEC support were also evaluated. The ability of Qwest's recruiting and training programs to provide staff with the necessary skills to perform manual support functions was also reviewed by CGE&Y.

4.1 System Capacity Test

4.1.1 Introduction

The System Capacity Test consisted of two phases: 1) a test of the OSS using forecasted loads of up to twelve months into the future and, 2) a stress test to test whether Qwest could process an additional load equal to 150% of the 12-month test's busy hour load.

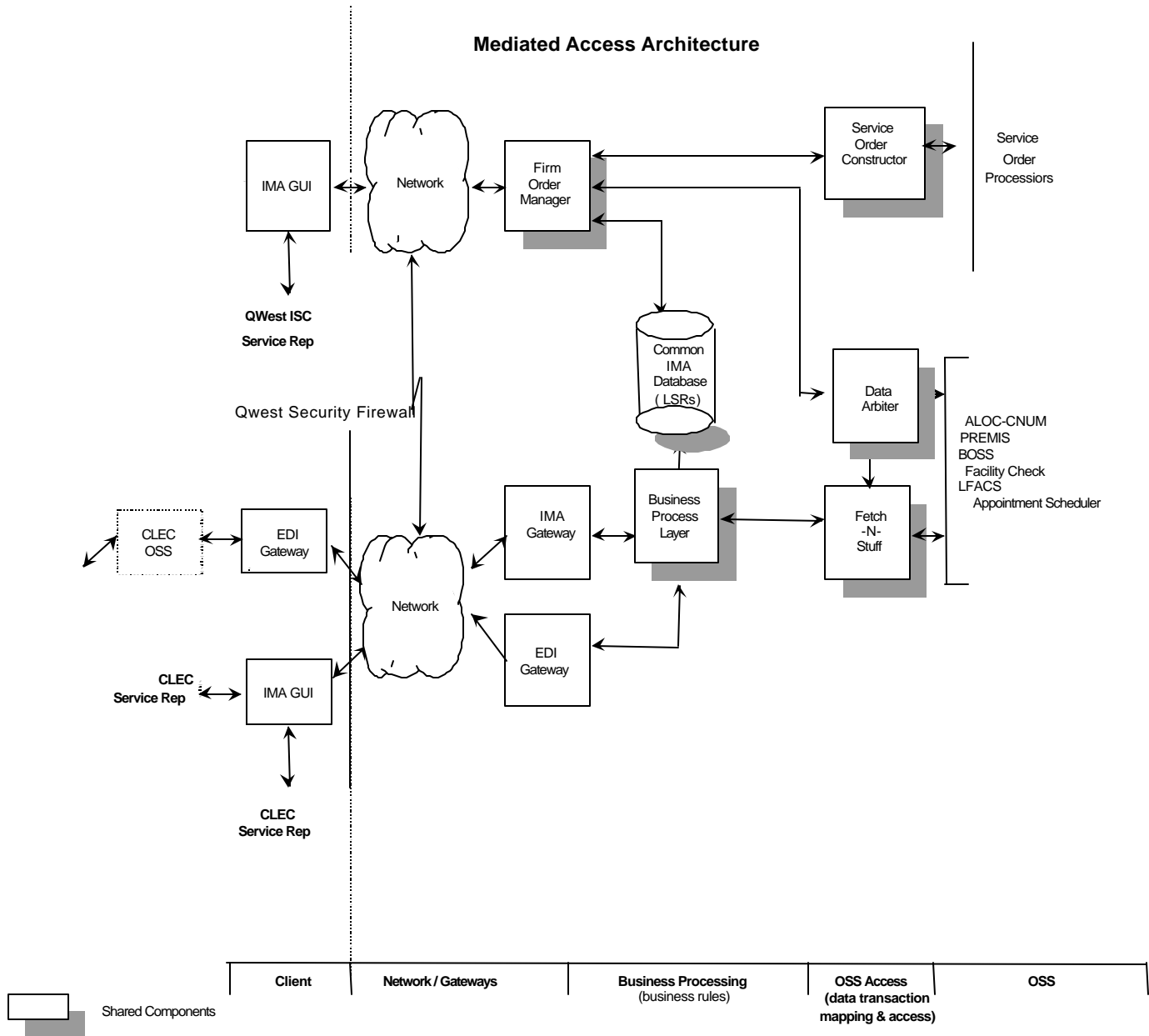
The purpose of the System Capacity Test was to determine whether Qwest's systems have sufficient capacity to handle workload volumes required to support CLEC order and pre-order activities anticipated within 12 months from the date of test execution and still maintain established performance measurement levels. This was accomplished by determining the forecasted 12-month volume and supplementing existing commercial volumes on the day of the test with Pseudo-CLEC transactions in order to generate the forecasted load. The Capacity Test validation evaluated the ability of Qwest's OSS and interfaces to perform in a stable manner under a defined workload and determined the level of order activity where the OSS performance levels began to deteriorate during the stress test phase.

As stated above, the Capacity Test consisted of generating a certain number of order and pre-order transactions during the time frame of the test. These transactions were input at the same proportion as actual volume. For example, if 10% of the current daily load is input from 10 a.m. until 11 a.m., then 10% of the test load was input during the same time frame.

Originally, the TSD separated Phase I of the Capacity Test into three tests consisting of a 6-month, 9-month and 12-month test. Each test was to evaluate the operation of Qwest's OSS under volumes anticipated for each time period. The 6-month test was to be performed initially with the 9-month commencing upon successful completion of the 6-month test and so on. However, the Capacity Subcommittee, at the recommendation of CGE&Y, made a decision to reverse the order of testing and begin with the 12-month test, thereby only performing the 9-month test should Qwest's systems fail to meet performance benchmarks with the 12-month volume.

In order to provide a common understanding of the OSS included in the Capacity Test, brief descriptions and schematic diagrams of the IMA and EDI architectures for pre-ordering, ordering and provisioning are provided in Figure 4.1.1a. Figure 4.1.1a depicts the mediated access architecture currently provided by Qwest for the IMA and EDI interfaces. As shown, the CLEC OSS or workstations access the Qwest gateways through a security firewall. They communicate with the Qwest human-to-computer interface and/or the computer-to-computer interfaces to transmit and receive information.

Figure 4.1.1a



The System Capacity Test was designed to reflect volumes needed to adequately test the Qwest systems that support the Arizona CLEC community. To perform the test, those systems that support all 14 states in the Qwest region were tested with the projected 14-state volumes. Those systems supporting a

specific region were tested with the volumes anticipated only for that region. Those systems that only support Arizona were tested with Arizona volumes.

4.1.2 Scope

The scope of the System Capacity Test was to evaluate whether the relevant Qwest systems have sufficient capacity to handle the defined workload volumes required to support CLEC pre-order and order activities at the performance benchmarks defined in the PID. Appendix C of the MTP provides a list of performance measures that were to be evaluated during the Capacity Test. Following the MTP, CGE&Y monitored pre-order and order response times experienced by the Pseudo-CLEC to gather data to calculate results for PO-1, PO-2 and PO-5 and determine whether Qwest's systems performed adequately with the increase in volume. However, since the intent of the System Capacity Test was to validate system performance, not Qwest's ability to handle manual orders or to test flow-through capabilities, only flow-through eligible LSRs were to be used in the test. Therefore, an agreement was reached between the parties that only PO-1A&B and PO-5A would be evaluated as part of the Capacity Test and this evaluation made no finding on Qwest's ability to handle volumes of LSRs that fell to manual processing.⁴⁷

Capacity Test Performance Measurements

One of the success criteria for the Capacity Test was whether or not Qwest's performance continued to meet benchmark standards for certain performance measurements with the increased volume. Therefore, it is vital to have a general understanding of the measures evaluated as part of the test.

PO-1 – Pre-order Response Time

PO-1 evaluates the timeliness of responses to specific pre-ordering/ordering queries for CLECs through the use of Qwest's OSS. The time interval between query and response for transactions submitted either via GUI or EDI is included in the measure. Submeasure PO-1A measures response time for the GUI, and submeasure PO-1B measures response time for EDI. Qwest does not collect data on actual CLEC pre-order transaction times but instead uses a system that simulates the transactions of requesting pre-ordering/ordering information from the existing OSS. The time interval between query and response consists of the period from the time the transaction request was "sent" to the time it was "received" via the gateway interface. Table 4.1.2a reflects the pre-order transactions and the benchmark for each.

Table 4.1.2a Pre-Order Response Times

Transaction	GUI (PO-1A)*	EDI (PO-1B)
1. Appointment Scheduling	<10 seconds	<10 seconds
2. Service Availability Information	<25 seconds	<25 seconds

⁴⁷ LSRs that triggered rejections that could be handled in a mechanized environment and LSRs that fell to the manual-handling queue were included in the test.

3. Facility Availability	<25 seconds	<25 seconds
4. Street Address Validation	<10 seconds	<10 seconds
5. Customer Service Records	<12.5 seconds	<12.5 seconds
6. Telephone Number	<10 seconds	<10 seconds
7. Loop Qualification	< 20 seconds**	< 20 seconds**
Note: * The Pseudo-CLEC's load generator tracked PO-1A part B (Transaction Response times). CGE&Y added IRTM part A (May/June average as agreed by the Capacity Subcommittee and the TAG). ** Benchmark applies to response time only. Request time and Total time were also reported.		

In addition to evaluating whether Qwest met the above benchmarks for the PO-1 measure, CGE&Y also analyzed IRTM results to determine if the simulated transactions are an accurate representation of the CLEC's actual pre-order response time. This analysis included comparing both sets of results to each other and to the appropriate benchmark.

PO-5 – Firm Order Confirmations on Time

PO-5A monitors the timeliness with which Qwest returns FOCs to CLECs in response to LSRs received. The interval measured is the period between the LSR received date/time and Qwest's response with a FOC notification. For purposes of the Capacity Test, PO-5 was limited to an evaluation of PO-5A, the percent of fully electronic orders that flow through within 20 minutes. The Capacity Test only evaluated (in terms of the PID) flow-through orders that actually did flow through, in accordance with Section 5.2.2.2(b) of the TSD.

In addition to reporting on the above performance measurements, CGE&Y also issued a Transaction Report, which provided details of each LSR and was used to determine the status of LSRs that did not receive a FOC.

Capacity Test Orders

One of the major tasks of the Capacity Test involved determining the total number of transactions to be generated during the test. The number of proposed transactions was determined by the Capacity Subcommittee and agreed to by the TAG. Discussions over the appropriate forecasted volumes began in February 2000 and final agreement was reached in July 2000.

During the volume discussions, Qwest provided the Capacity Subcommittee with a forecast of estimated CLEC volumes for one year from the proposed test month. The CLECs reviewed and questioned the forecast which resulted in Qwest modifying the results as follows:

- Arizona volumes were increased for UNE-P, LNP, UNE-L, and UNE-L w/LNP by 15% in September 2001.

- UNE-P volumes were increased by 5%, and the UNE-L and UNE-L w/LNP volumes were increased by 10% in September 2001 for Arizona, Colorado, Minnesota, Nebraska, New Mexico, Oregon, Utah and Washington.
- UNE-P volumes were increased by 10% across the 14 Qwest states.

Qwest made the changes to the forecast, the Subcommittee agreed and the TAG approved the revised Capacity Test volumes.

The System Capacity Test was performed in Qwest's production environment and included existing commercial volume during normal business hours. The Pseudo-CLEC's load generator provided the necessary quantity of simulated activity for processing via Qwest's GUI and EDI gateways to supplement existing volume to generate total order activity as agreed to by the TAG. The Capacity Test orders went through the ordering process until the issuance of a FOC or the order was placed into the proper error queue. Per the TSD, Qwest's maintenance and repair (M&R) systems, billing and usage systems, and provisioning systems were out of scope for the Capacity Test.

The Capacity Test orders were cancelled following receipt of the FOC or notification that the order had fallen out for manual processing. Any Capacity Test orders that fell into the manual intervention queue were also cancelled and were not processed by Qwest's Interconnection Service Centers (ISCs). Therefore, no SOC's should have been generated for these LSRs. The cleanup effort of canceling the Capacity Test LSRs was performed during non-business hours so as not to affect production. All Capacity Test POTS and LNP LSRs issued by the Pseudo-CLEC had an extended due date of up to 75 business days from the date of the test as an additional safeguard to prevent provisioning activities from being carried out by Qwest. Unbundled Network Elements – Loop (UNE-L) orders and UNE-L with LNP were processed with an extended due date of up to 36 business days from the date of the test. These dates are the maximum due dates that Qwest's business rules allow for an LSR to flow through without special handling thereby not effecting normal processing of the order.

Finally, Qwest provided CGE&Y with performance measurement data pertaining to the Capacity Test for PO-1 (IRTM), PO-2 and PO-5 along with a list of orders that fell out for manual intervention. Qwest also provided system information, such as CPU, memory and disk utilization. CGE&Y used the Pseudo-CLEC collected data along with the Qwest performance measurement data to evaluate the success level of the Capacity Test. CGE&Y obtained pre-order response times experienced by the Pseudo-CLEC and compared them against the simulated response times generated during the Capacity Test by IRTM to make a comparison and draw a conclusion as to whether Qwest's simulated system is an adequate representation of the CLEC's actual pre-order response time experience.

4.1.3 Process

This section defines the test requirements and describes the overall process that was employed for conducting, administering and managing the Capacity Test as outlined by the TSD 2.10. The test requirements were developed by the Capacity Subcommittee, presented in the SCTDP 2.02 (see Appendix P) and in accordance with the TSD 2.10, reviewed with the TAG for approval prior to conducting the Capacity Test. To maintain fairness and blindness of the test, neither Qwest nor the CLECs knew, in advance, the actual date that the System Capacity Test was to be performed. All supporting documentation for this area of the Capacity Test may be found on a CD ROM located in CGE&Y's viewing room.

The SCTDP 2.02, as per the Section 5.2.4 of the TSD 2.10, specifies the scope, approach, entrance, exit and execution requirements for the Capacity Test. This plan was reviewed with the Pseudo-CLEC, the CLECs and Qwest prior to commencement of the test. TSD 2.10, along with the SCTDP 2.02 provides for the execution of as many as four test phases. The outcome of each phase determines whether the next phase will be executed. However, the TSD 2.10 and the SCTDP 2.02 differ on the order in which three of the phases are to be conducted. The TSD 2.10 first executes the 6-month test proceeding to the 9-month only upon the success of the 6-month test and so on continuing to test Qwest's system until there is a failure. The SCTDP 2.02 reverses the order and only tests the 12-month volume unless the systems fail to meet the test criteria. This change in testing methodology was agreed to by the TAG.

Phase 1 was performed with volumes that represented the forecast 12 months from the start of the System Capacity Test, and the results were evaluated to determine whether benchmarks were met. Since the benchmarks were met, the Phase 4 test (stress test) was performed using volumes that represented 150% of the Phase 1 (12-month) test volume. If the benchmarks had not been met, the Phase 2 test would have then been performed.

Phase 2 was to be performed with volumes forecasted nine months from the date of the System Capacity Test. If the evaluation of results indicated that benchmarks had been met, the Phase 4 test (stress Test) would have been performed with volumes that represented 150% of the Phase 2 test volume. If benchmarks were not met, the Phase 3 test would be performed.

Phase 3 was to be performed with forecasted volumes six months from the start of the System Capacity Test. If the benchmarks were met, the Phase 4 test (stress test) would be performed with volumes that represented 150% of the Phase 3 test volume. If Qwest failed to meet the benchmarks, CGE&Y would have issued an IWO and, Qwest would be provided an opportunity to review the results and make system changes before testing continued. Retesting would have been performed if the six-month test was unsuccessful.

Pre-Order Planning

Qwest's OSS provided functionality to seven different pre-order queries at the time of planning for the Capacity Test. These transactions are listed below and in Table 4.1.3.1a along with the number of planned transactions per query. Table 4.1.2a reflects the benchmark associated with each transaction type.

The mix was selected from the following transactions:

- Customer Service Record (CSR)
- Address Validation (AVQ)
- Request for Telephone Number (TNAQ)
- Feature and Service Availability (SAQ) (includes PIC/LPIC Query)
- Appointment Scheduler (AAQ)
- Facility Availability (FAQ)
- Loop Qualification (Loop)
- Connect Facility Availability (CFA)*
- Meet Point*
- DSL Resale*

*These transactions were developed by Qwest after the MTP and TSD were approved and were not included in the System Capacity Test. The volumes associated with these transactions were added to the Facility Availability transactions.

The pre-order process functions performed in the Capacity Test include the same query transactions as those performed during the Functionality Test with the exception of the Connecting Facilities Assignment (CFA) transaction. Neither CFA, Meet Point or DSL resale queries were available at the time plans for the Capacity Test were formulated. Meet Point and DSL resale did not have sufficient volume and their impact was minimal to justify the addition to the test. In addition, neither of these transactions had an associated PID benchmark in order to determine the pass/fail criteria. However, there was disagreement among the parties as to whether or not CFA should specifically be included in the test. The disagreement centered around whether the CFA transaction itself should be included or if it was sufficient to include the volume associated with that transaction within the Facility Availability transaction. Given the nature of the Capacity Test, Qwest's position was that the FAQ query is comparable to the CFA query in terms of the number of steps, data inputs, and purpose of the outputs of the transaction. Qwest therefore argues that increasing the number of FAQ transactions is the appropriate method for accommodating the CFA transaction in the capacity test.

The CLECs pointed out that the CFA pre-order transaction became available with IMA Release 6.0. The CFA transaction currently represents about 3.0% of the pre-order transactions. The CFA transaction is different from most other

pre-order transactions in that it accesses the TIRKs database to retrieve the requested information. CGE&Y agreed with Qwest on this matter.

The disagreement could not be resolved in either Capacity Subcommittee or the TAG, which resulted in the parties declaring an impasse.

The ACC resolved the impasse by agreeing with CGE&Y and Qwest that it was not necessary to design and include the CFA transaction in the Capacity Test. Since the purpose of the Capacity Test is to test the ability of Qwest systems to handle transaction volumes and does not test the functionality of the transactions, the CFA transaction could be accounted for by increasing the FAQ transaction volumes an amount equivalent to the projected CFA volumes.

The Pseudo-CLEC's load generator was expected to provide the additional pre-order volumes necessary to achieve the 12-month forecasted volumes. The total number of pre-order queries planned for each phase of the Capacity Test was as follows:

Phase	Total	EDI	GUI
Phase 1 (12 month)	20,083	17,071	3,012
Phase 2 (9 month)	10,443	8,877	1,566
Phase 3 (6 month)	7,000	5,950	1,050
Phase 4* (Stress)	8,422	7,159	1,263

*Phase 4 volumes are dependent upon which previous phase of the test is successful. The above numbers represent the volumes that would be used if Phase 1 of the test is successful.

In order to arrive at the forecasted 12-month volume to use in the Capacity Test, input was obtained from all parties as to the number and types of service orders expected to materialize. Each specific order type is expected to result in an average number of pre-order transactions per order (see Table 4.1.3a for total number of orders planned by service category along with the number of pre-order queries associated with each type of order). The formulae for determining how many pre-order queries are associated with each order type is defined in the SCTDP 2.02, Section 5.2.1, Table 5.2.1-1 (see Appendix P of this document). In addition to pre-order transactions forecasted associated with order volume, additional pre-order queries were forecasted based on the Qwest-provided stand-alone pre-order transaction formula as per the SCTDP 2.02, Appendix B (see Appendix P, SCTDP 2.02, Appendix B). This formula suggests that the number of pre-order transactions performed that do not result in the creation of an LSR is directly proportional to the total number of LSRs submitted.

The following chart shows the pre-order queries by order type:

Table 4.1.3a: Pre-Order Query for the System Capacity Test (Local Service Request)

Pre-Order Query for each System Capacity Test Order Service Request (12 Month)								
Order Type/Activity Type	LSRs	CSR	AVQ	TNAQ*	SAQ	AAQ	FAQ	LOOP
LNP Only								
LNP (V)	319	319	319					
LNP (Z)	2014	2014	2014					
UNE Loop with LNP								
Retail to UNE Loop Conversion (V)	50	50	50		35		7	7
Retail to UNE Loop Conversion (Z)	191	191	191		133		29	29
UNE Loop w/o LNP								
Retail to UNE Loop Conversion (V)	41	41	41	6	29		6	6
UNE Loop – New (N)			866		866		866	866
UNE Loop – Disconnect (D)	204	204	204					
Resale								
Retail to Resale Conversion (W)	47	47	47					
Retail to Resale Conversion (V)	65	65	65		65	10	10	
Retail to Resale Conversion (Z)	112	112	112		112	17	17	
Resale – New (N)			47	47	47	47	47	47
Resale – Change (C)	300	300	300	45	300	45	45	
Resale – Disconnect (D)	218	218	218					
UNE-P								
Retail to UNE-P Conversion (V)	12	12	12		12	2	2	
Retail to UNE-P Conversion (Z)	21	21	21		21	3	3	
UNE -P – New (N)			9	9	9	9	9	9
UNE -P – Change (C)	57	57	57	9	57	9	9	
UNE -P – Disconnect (D)	41	41	41					
TOTAL Pseudo-CLEC	4566	3645	4567	151	1687	141	1049	964
Standalone		1971	2480	1303	254	64	286	
Total Pre-Order		5616	7046	1455	1941	204	2857	964

Order Planning

The Capacity Test contained the following requirements pertaining to the LSRs submitted to arrive at Capacity Test volumes:

- The test consisted of LSRs that were eligible to flow through to the Qwest Service Order Processors (SOPs). However, LSRs that were expected to cause mechanized error rejects, and flow-through LSRs that fell to manual processing, were also included in the test. These errors were included to add a volume of simulated LSR errors to the test to replicate a production environment.
- Non flow-through eligible LSR types were not included in the test. However, the forecasted volumes for these LSRs were applied to flow-through eligible LSR volumes.
- Since the LSRs were to be cancelled before the provisioning process started, analysis of provisioning was not performed for the System Capacity Test as per the requirements of the TSD 2.10.
- The hourly volumes were based on the historical data patterns Qwest supports in its production environment. For example, if 10% of the daily order flow normally is experienced during the 8 a.m. to 9 a.m. time frame, then 10% of the test orders would also be generated during that time period.
- The Pseudo-CLEC load generator created the order volume, mix, and arrival rates as defined by CGE&Y.
- The total number of order transactions planned for the System Capacity Test was as follows:

Phase	Total	EDI	GUI
Phase 1 (12 month)	4,566	3,881	685
Phase 2 (9 month)	2,569	2,184	385
Phase 3 (6 month)	1,722	2,184	258
Phase 4*(Stress)	2,072	1,761	311

*Phase 4 volumes are dependent upon which previous phase of the test is successful. The numbers above represent the volumes that will be used if the Phase 1 test is successful.

See Table 4.1.3a for an analysis of planned order transaction mix for the 12-month Capacity Test.

The System Capacity Test input mix also included:

- Intentional error conditions that resulted in rejects in Qwest's IMA-GUI and EDI interfaces. Although a failed transaction requires no manual work for purposes of this test, ordinarily expected occurrences of error/reject messages have been integrated into the test process to simulate actual production environment.
- Replications of transactions created by the load generator by the Pseudo-CLEC in order to attain the required number of transactions. Qwest ignored certain IMA edits (normally these edits would have been enforced) to allow the replication of LSRs to be created against the same test accounts for the purpose of the Capacity Test. Without this capability, execution of the test would have required a unique account for each LSR to be issued during the test. Allowing the replication of transactions had no effect on the operation or validity of the test.

System Capacity Test Phase 4 (Stress Test) Planning

The stress volumes were determined based on the formula described in TSD 2.10 and is as follows:

- The daily volume from the successful previous phase (Phase 1, 2 or 3) was increased by 50%.
- The busy hour load from the successful phase of the Capacity Test, which is generally 11.1% of the daily load was used as the baseline for the test.
- The stress test volume was 150% of the baseline volume.

The first hour of the stress test was executed using the baseline volume. During the second hour of the test the volume was increased in fifteen-minute increments until the stress volume was achieved. This was performed to observe the impact the increased volume had on Qwest's systems as the ultimate stress volume was approached. During the third and fourth hours, the stress volume was to be maintained at a constant rate. IRTM Telephone Number (TN) transaction volumes remained constant at the full stress level for the duration of the stress test.

Table 4.1.3b reflects the planned stress test volumes during each specific test interval. The "Total Order Volume" reflects the forecasted total expected during the third quarter of 2002. The "Production Order Volume" column reflects current CLEC demand. The "Incremental Order Volume" is the number of test orders that must be generated by the Pseudo-CLEC in order to reach forecasted volume. The "Incremental Pre-Order Volume" is a factor of the test order volume and calculated as the capacity pre-order transactions were.

Table 4.1.3b Stress Test Volumes (12-Month Test)

Pre-order and Order Stress Volumes	Total Order Volume 3Q2002	Production Order Volume 3Q2001	Incremental Test Order Volume 3Q2001	Incremental Pre-Order Volume 3Q2001
Daily 3Q2001 Volume	11706	7050	4566	20083
50% Increase to Establish Peak Daily volume			2283	10042
Total Daily Volume			6849	30125
Highest Percent of Orders Sent during One Hour			11.1%	11.1%
Total Peak Hour Volume			760	3344
Hour 1 (Baseline for the Stress Test)			510	2229
Hour 2 (Stress hour volume) sent in the following 15 minute increments			760	3344
First 15 minutes (19% of Hour 2 volume)			144	535
Second 15 minutes (22% of Hour 2 volume)			167	736
Third 15 minutes (28% of Hour 2 volume)			213	936
Fourth 15 minutes (31% of Hour 2 volume)			236	1137
Hour 3 (Stress hour volume) sent evenly over the hour			760	3344
Hour 4 (Stress hour volume) sent evenly over the hour			760	3344

4.1.3.1 Test Activities

The following activities were performed during the Capacity Test:

- The Pseudo-CLEC executed the System Capacity Test according to the SCTDP 2.2.
- CGE&Y team members were present at both the Pseudo-CLEC site and the Qwest site to observe and monitor the test.
- All incidents observed during the preparation or execution of the test were documented using the Incident Work Order (IWO) Process as described in Appendix I of the TSD 2.10.
- CGE&Y validated that the test scripts were completed in the prescribed manner and that all results were recorded.
- Following the receipt of the FOC (or rejection notice) Qwest cancelled the orders. The cancellation process was performed during non-business hours so not to adversely affect Qwest's systems. The cancellation of these orders had no impact on the test.

- f) CGE&Y calculated results for PO-1 and PO-5 from the data gathered by the Pseudo-CLEC for Phase I of the Capacity Test and the Stress Test to determine if Qwest's performance during the test met the applicable benchmarks associated with the measure.⁴⁸
- g) CGE&Y obtained IRTM results from Qwest for the day of the Capacity and Stress Test to compare with results calculated for PO-1 from the Pseudo-CLEC data. An analysis was performed to determine if IRTM accurately reflects actual pre-order response time.

Operational Readiness Test

The purpose of the ORT was to ensure that

1. CGE&Y and HPC were prepared to perform the System Capacity Test;
2. HPC and Qwest could provide the data CGE&Y needed to analyze the results of the test; and
3. CGE&Y could accurately report the results of the test.

Because the ORT was designed to test system readiness of the parties to perform the System Capacity Test, the small number of Pre-Order and Order transactions submitted during the ORTs cannot be used to make any determination as to Qwest's ability to pass or fail the 12-month Capacity Test.

Five ORTs were performed to verify that all of the components of the System Capacity Test were in place and working in a sufficient manner to enable the test to proceed.

- ◆ Since the IMA gateway is a regional gateway, test volumes were needed to simulate forecasted CLEC volumes for all 14 states within the Qwest region.
- ◆ In preparation for the ORT, Qwest provided CGE&Y with test accounts to be used for the test. These accounts were pseudo customers in all 14 states. These accounts included:
 - Retail accounts
 - Resale accounts
 - UNE-L accounts
 - UNE-P accounts

⁴⁸ See HP document "HP Capacity Test White Paper," August 13, 2001 for method Pseudo-CLEC used to timestamp both inbound and outbound transactions.

- ◆ Qwest created pseudo connecting facilities and pseudo addresses for the test in order for the LSRs to flow through without manual intervention.
- ◆ CGE&Y verified the pseudo accounts by performing Address Validations, CSR queries, and CFA queries for the appropriate accounts. All discrepancies were reported to Qwest for resolution.
- ◆ CGE&Y matched the accounts with the appropriate test scripts and created a spreadsheet with the required information to create an LSR or perform a pre-order query. CGE&Y also created a spreadsheet that detailed the following:
 - Number of LSRs to be issued by product type, by state, by hour
 - Number of pre-order transactions by type, by state, by hour
- ◆ CGE&Y forwarded this spreadsheet to the Pseudo-CLEC to enable them to populate their load generator.

As stated earlier, five ORTs were performed. The initial three ORTs detected certain situations that needed to be corrected and verified by another ORT prior to actual testing. These included:

- Incorrect test scripts created by CGE&Y
- Incorrect templates created by the Pseudo-CLEC
- Incorrect test bed setup by Qwest
- Inconsistent reporting of times (e.g., minutes and seconds reported by Qwest, seconds reported by Pseudo-CLEC)

The June 21 ORT failed due to a Qwest system change made to accommodate a test in progress in another jurisdiction. This system change caused the LSRs issued in the Arizona ORT to automatically complete, prior to cancellation. Once this was brought to the attention of Qwest, Qwest reset their accounts and another ORT was run in order to verify the Qwest fix.

The July 16 ORT contained errors, many of which were related to the June ORT. These errors were left in the test to account for the “Planned” errors for the 12-Month Capacity Test and the stress test; therefore, no further ORTs were required for system verification.

Also, the CGE&Y Transaction Report issued for the July 16 ORT reported all negative FOC response times and all positive response times of less than one minute as one minute. (A negative response time was reported when the FOC, transmitted via an e-mail and recorded as

hours and minutes, was received during the same minute as the LSR was sent via GUI and recorded in hours, minutes and seconds.) For the 12 month Capacity Test and the Stress Test CGE&Y rounded only the negative FOC response times to one minute in the Transaction Report.

This approach was taken for the 12 month Capacity Test and Stress Test reporting to accurately report positive FOC response times and still include the valid FOC response times that appeared to be negative due to the above explanation.

The main activities involved in the ORT included:

- Qwest test accounts were provided to CGE&Y
- CGE&Y test scripts were provided to the Pseudo-CLEC
- Communication between the test parties during and after the test to verify successful operation of the communication process
- Verification that the Pseudo-CLEC's test transaction generators, both GUI and EDI, were operational
- Verification that the Pseudo-CLEC's result monitoring software and reports were functional
- Verification that Qwest's systems and interfaces were in place and functional
- Verification that Qwest's pre-order TN reservation scripts (i.e., IRTM scripts) were in place
- Verification that Qwest's LSR and service order cancellation scripts were in place
- Verification that the reports produced and distributed by all parties involved in the test were functional
- Verification that the daily cleanup process for activities associated with the test were in place

For more details with regard to the ORT see Appendix P, SCTDP, Section 7.

Test Entrance Criteria

The following MTP and TSD entrance criteria were met for the System Capacity Test:

Criterion	Completed
The selection of CGE&Y as the Test Administrator for the test is approved and finalized by the ACC.	✓
The selection of HP as the Pseudo-CLEC for the test is approved and finalized by the ACC.	✓

Criterion	Completed
The capacity test plan requirements are included in the TA's Test Execution Document.	✓
A database has been developed to load all Qwest test bed accounts and address locations to support the generation of seed order test cases to be provided to HP.	✓
A live production test environment to conduct the pre-order and order tests has been validated by HP and the TA and determined to be operational.	✓
The scheduled dates for the Capacity Test are identified.	✓

System Capacity Test Results and Analysis

The System Capacity Test was first attempted on July 26, 2001. While the test appeared to run successfully, an analysis of the data indicated the Pseudo-CLEC EDI CSR template was incorrect.

The System Capacity Test was next attempted on August 7, 2001. At about 12:30 p.m. CGE&Y aborted the test when it became apparent that the transactions response times were extremely slow. Analysis of the problem by Qwest indicated that the "Code Red" virus was the cause. Qwest reported that a problem prevented the gateways messages from being forwarded to the system support personnel. CGE&Y issued AZIWO1193. Qwest reported that it implemented an enhanced alerting system. AZIWO1193 was closed.

The System Capacity Test was successfully performed on August 10, 2001. CGE&Y monitored the test from the Qwest Data Center in Salt Lake City, Utah, and the Pseudo-CLEC location in Tempe, Arizona. The test commenced at 7:00 a.m. MST and concluded at 6:00 p.m. MST.

Pre-order Test Results and Analysis

The actual volume of pre-order transactions executed during the 12-month test was 21,500 transactions as compared to the 20,083 that were proposed during the planning of the test. CGE&Y increased the initial numbers to take into account planned errors and to adjust the load to account for increased demand given the time delay in executing the test. Table 4.1.3.1a reflects the breakdown of total pre-order transactions by interface type. Of the 21,500 pre-order transactions,

18,316 were EDI transactions and 3,196 were GUI transactions resulting in a breakdown of 14.8% GUI and 85.2 % EDI transactions. Counts by various query transaction types are reflected in the rows under their associated GUI, EDI and total pre-orders column headings. Failed transactions are those receiving error messages as opposed to a valid response.

Table 4.1.3.1a Capacity Test Phase 1 Pre -Orders Processed

Capacity Test Pre-Order Volumes Processed										
Transaction Type	GUI			EDI			Total Pre-Orders			
	Successful	Failed	Total	Successful	Failed	Total	Successful	Failed	Total	%
Appointment Availability	32	0	32	242	0	242	274	0	274	1.3%
Appointment Selection	0	0	0	56	0	56	56	0	56	0.3%
Address Validation	1125	0	1125	6417	19	6436	7542	19	7561	35.2%
Customer Service Request	898	0	898	5012	74	5086	5910	74	5984	27.8%
Facility Availability	428	0	428	2406	22	2428	2834	22	2856	13.3%
Loop	153	0	153	866	7	873	1019	7	1026	4.8%
Service Availability	310	0	310	1576	183	1759	1886	183	2069	9.6%
Telephone Number Assignment	238	0	238	1372	6	1378	1610	6	1616	7.5%
Telephone Number Select	0	0	0	58	0	58	58	0	58	0.3%
Total	3184	0	3184	18005	311	18316	21189	311	21500	100.0%
Percent	14.8%	0.0%	14.8%	83.7%	1.4%	85.2%	98.6%	1.4%	100.0%	

Of the 18,316 EDI transactions entered, 311 EDI transactions resulted in an error message. These were the planned errors mentioned previously in order to simulate an actual production environment.

The average response times for the pre-order transactions were within the benchmarks for both GUI and EDI per PID 6.3 as reflected by Tables 4.1.3.1b and 4.1.3.1c.

Table 4.1.3.1b contains the pre-order response times that were achieved during the Capacity Test for IMA -GUI, (PO-1A). These results are reported as either calculated using IRTM or the Pseudo-CLEC data. The IRTM results were reported to CGE&Y by Qwest and the Pseudo-CLEC results were calculated by CGE&Y from the transaction data that was generated from the 12-month Capacity Test. The “IRTM Result Part a” column reflects the response time for the screen to become available to the user once the transaction is queried. “IRTM Result Part b” represents the time to receive the response for the specified transaction. These two calculations combined provide the overall response time for the PO-1A measurement for each transaction type. Under the “Pseudo-CLEC Results” column, the time interval under “IRTM Result Part a” was provided to CGE&Y by Qwest since the Pseudo-CLEC software does not have the ability to measure the time for the screen to become available once requested.

The approach Qwest used to provide the missing time interval for the GUI PO-1A total response time interval was agreed to by the members of the Capacity Subcommittee and presented to the TAG for review. Qwest calculated the Part a component to provide CGE&Y by averaging PID results for the PO-1A measure for the months of May and June 2001. The “CLEC Result Part b” column shows the actual time interval once queried for the response to appear on the screen.

This time was provided by the Pseudo-CLEC. The “Pseudo-CLEC Result” column represents the total time interval for the Pseudo-CLEC to receive the response to the query. This should be used to compare to the “IRTM Total.” Both the Pseudo-CLEC and IRTM results are well within the PID benchmarks for all the pre-order transaction types. While some IRTM results are of a shorter duration than that experienced by the Pseudo-CLEC, there are over twice as many transactions where the Pseudo-CLEC experienced shorter response times than those reported by IRTM. Most of the response times are fairly close, almost within a second or two, with the longest difference being experienced with the CSR pre-order query where IRTM results are over three seconds longer than that experienced by the Pseudo-CLEC.

Table 4.1.3.1b Capacity Test Phase 1 IMA-GUI (PO-1A) Results

Media - GUI	IRTM Results			Pseudo-CLEC Results		
Category Description	IRTM Result Part a	IRTM Result Part b	IRTM Total	Pseudo-CLEC Result Part a	Pseudo-CLEC Result Part b	Pseudo-CLEC Result
Appointment Availability	0.48	2.65	3.13	0.51	1.03	1.54
Address Validation	1.06	4.39	5.45	1.13	2.77	3.90
Customer Service Request	0.66	8.14	8.80	0.67	4.45	5.12
Facility Availability	0.62	13.12	13.74	0.63	12.37	13.00
Loop	0.59	7.42	8.01	0.65	9.11	9.76
Service Availability	0.48	4.78	5.26	0.51	6.31	6.82
Telephone Number Assignment	0.64	4.00	4.64	0.93	1.58	2.51

* Pseudo-CLEC Part a result is the average of the May/June 2001 IRTM Part a result.

The performance results for pre-order response time for EDI (PO-1B) transactions are shown in Table 4.1.3.1c. The table shows both the Qwest IRTM measurement results received and the Pseudo-CLEC results as calculated by CGE&Y. As displayed in the table, the results for each query category were within the PID measurement benchmarks regardless of whether using the IRTM or Pseudo-CLEC data. As reflected by the table, differences between IRTM and Pseudo-CLEC results are mostly within a one second time frame except for TN, Service Address and Loop Qualification, where the IRTM result is five seconds shorter than that experienced by the Pseudo-CLEC. It is also interesting to note that IRTM reports shorter response time intervals for every pre-order transaction except Facilities Availability.

Pseudo-CLEC EDI results longer than the comparable GUI results because of the complex nature of the EDI transaction. Pre-Order transactions must first be mapped by the into EDI format then encrypted prior to transmittal, then be unencrypted at the other and mapped to a transaction that Qwest’s systems understand.

While the EDI process is generally longer than the GUI, CLECs can benefit from the fact that this application to application interface allows the CLEC to input end user information into its own systems then transmit a Pre-Order request or a LSR to Qwest, while CLECs using the GUI interface input transactions directly to Qwest, and must also add the necessary information into its own systems.

Table 4.1.3.1c Capacity Test Phase 1 PO-1B Results

Category Description	Media	IRTM Result	Pseudo CLEC Result
Appointment Availability	EDI	5.86	5.91
Address Validation	EDI	4.31	5.24
Customer Service Request	EDI	6.86	7.48
Facility Availability	EDI	14.67	12.65
Loop	EDI	8.28	13.27
Service Availability	EDI	8.00	11.86
Telephone Number Assignment	EDI	3.24	5.93

Order Test Results and Analysis

Table 4.1.3.1d shows the test mix and number of orders that were executed and processed for the 12-month System Capacity Test. The product types included in the test are represented with the total number of each that were processed along with their associated percentages of total orders executed during the test. The GUI, EDI and Total columns show the counts and percentages for each scenario product type broken down by scenario included for that product.

There were a total of 4,915 orders processed during the 12-month System Capacity Test consisting of 698 orders submitted through the GUI interface and 4,217 orders submitted through EDI. Of these orders that were processed, there were 3,756 EDI and 637 GUI for a total of 4,393 orders that received a FOC. There were 234 LSRs that ended up as rejects, all of which were planned to reject. A total of 281 LSRs fell to manual intervention of which CGE&Y had expected 79 of these orders to FOC. Therefore, CGE&Y issued AZIWO1143 and Qwest responded confirming that 78 LSRs were valid but did not flow-through due to an intermittent read error by Fetch 'N Stuff on some transactions returned from the downstream systems. Qwest made a configuration change in Fetch 'N Stuff to enable Fetch 'N Stuff to read all transactions. The remaining order that did not FOC also fell to manual intervention but according to Qwest this order did not fall out due to Fetch 'N Stuff. It was due to a formatting error on the part of the Pseudo-CLEC. In response to AZIWO1143 Qwest reported that it implemented a configuration change. There was no reoccurrence during the functionality retest so the IWO was closed.

The remaining seven LSRs were unaccounted for. These orders did not FOC, reject or fall out for manual intervention. CGE&Y issued AZIWO1144 to document this issue. Qwest confirmed that the seven LSRs did not receive a FOC but encountered an error in the Business Processing Layer (BPL) process that was generated due to the increased volume on the system. Qwest made system enhancements to correct this error and forwarded a copy of the code change to CGE&Y for verification. Since this issue arose due to increased volumes being placed on these systems, which normally would have increased gradually over a period of months giving Qwest an opportunity to scale its systems, and the minimal impact of seven LSRs being affected out of almost 5,000 issued, CGE&Y determined not to re-do the Capacity Test. However, CGE&Y reviewed the code change, and also observed that this problem did not recur during the functionality retest, so the IWO was closed.

Another issue that arose while evaluating the data produced by the System Capacity Test revealed that data was missing from the status file generated by the Pseudo-CLEC. Further research indicated that the Qwest Interactive Agent (IA) generated duplicate file names. It appeared at some point, the IA started reusing file names causing the new files to overwrite previously generated files. CGE&Y issued AZIWO3009 to document the finding and in response, Qwest agreed that duplicate file names were in fact generated and overwriting previous files; however, Qwest disagreed that the problem was with its IA. Qwest's response indicated that the problem is due to the design of the UNIX operating system on which Qwest's IA is running on the Pseudo-CLEC side of the interface. The limitation is not the fault of Qwest's IA or of the Pseudo-CLEC but is due simply to how that version of UNIX is designed. Any CLEC, BOC or other company in any other industry would encounter this same limitation in their applications (whether it was an IA or other application that relied on naming files) if it used a version of UNIX with this limitation.

- Review of the issue documented in AZIWO3009 revealed that the problem arose more as a function of the Capacity Test and would be highly unlikely to be duplicated during normal operations. It is doubtful that an actual CLEC would in fact save every single inbound transaction on its EDI interface but, would be more likely to save transactions to backend systems where actual work is performed. In addition, in normal production, the load generated during the Capacity Test would result from a multitude of CLECs doing business within Qwest's 14-state region and not one individual company, significantly reducing, if not eliminating, the chance of duplicate files. These two reasons alone make it highly unlikely that the 17,576 maximum unique filename limitation

would ever be encountered under normal operations. However, even with this problem, the Pseudo-CLEC was able to rehabilitate the missing capacity test data and include the data in the test results.

PO-5 results indicate that 100% of the LSRs issued that received a FOC met the 20-minute benchmark. One LSR received a FOC in 21+ minutes, but this LSR was handled manually and therefore excluded from the results as per TSD 2.10 (see Appendix N, 12-Month Test PO-5 Results). However, CGE&Y issued AZIWO1140 which documents the inadequacy of the PO-5 measure in that an order must FOC in order to be included in the measurement calculation to determine whether or not Qwest meets the benchmark. If an order does not FOC, it is not included in the measurement calculation.

Table 4.1.3.1d Capacity Test LSRs Processed

Capacity Test Orders Processed									
Product	Product Count	% of Orders	Scenario Type by Product	GUI		EDI		GUI-EDI Total	
				Total	%	Total	%	Total	% Product Type
LNP	3091	62.9%	Retail to LNP (V)	100	14.3%	566	13.4%	666	21.5%
			Retail to LNP (W)	364	52.1%	2061	48.9%	2425	78.5%
UNE Loop with LNP	37	0.8%	Retail to UNE Loop (V)	2	0.3%	9	0.2%	11	29.7%
			Retail to UNE Loop (Z)	4	0.6%	22	0.5%	26	70.3%
UNE Loop without LNP	855	17.4%	Retail to UNE Loop (V)	2	0.3%	9	0.2%	11	1.3%
			UNE Loop (D)	29	4.2%	176	4.2%	205	24.0%
			UNE Loop (N)	95	13.6%	544	12.9%	639	74.7%
Resale	794	16.2%	Resale (C)	45	6.4%	256	6.1%	301	37.9%
			Resale (D)	32	4.6%	186	4.4%	218	27.5%
			Resale (N)	5	0.7%	43	1.0%	48	6.0%
			Retail to Resale (V)		0.0%	66	1.6%	66	8.3%
			Retail to Resale (W)	9	1.3%	39	0.9%	48	6.0%
			Retail to Resale (Z)		0.0%	113	2.7%	113	14.2%
UNE-P	138	2.8%	Retail to UNE-P (V)		0.0%	11	0.3%	11	8.0%
			Retail to UNE-P (Z)		0.0%	20	0.5%	20	14.5%
			UNE-P (C)	10	1.4%	46	1.1%	56	1.1%
			UNE-P (D)		0.0%	42	1.0%	42	30.4%
			UNE-P (N)	1	0.1%	8	0.2%	9	6.5%
Totals	4915	100.0%		698	100.0%	4217	100.0%	4915	100.0%
Percent				14.2%		85.8%		100.0%	

The following provides a brief summary of the issues discussed above that were identified during the 12-month System Capacity Test.

- Seventy-nine LSRs that were expected to FOC did not (see AZIWO1143). In response to this IWO, Qwest made program configuration changes to Fetch 'N Stuff. There was no reoccurrence during the functionality retest so the IWO was closed.
- Seven LSRs were missing, that is they were unaccounted for in that they did not FOC, reject, or fall out for manual intervention (see AZIWO1144). In response, Qwest made system enhancements and CGE&Y was able to evaluate the code change. This issue did not

reoccur during the Functionality retest and CGE&Y considers the issue closed.

- During the test duplicate file names were generated overwriting previously created files (see AZIWO3009). This issue developed due to the nature of the System Capacity Test and would not occur under normal operations.

System Capacity Test (Stress Test) Results and Analysis

The System Capacity stress test was performed on August 17, 2001. CGE&Y had monitors at the Qwest Data Center in Salt Lake City, Utah and the Pseudo-CLEC location in Tempe, Arizona. The test commenced at 9 a.m. MST and concluded at 1 p.m. MST.

Pre-order Test Results and Analysis

The actual volume of pre-order transactions executed during the stress test was 14,387 transactions, as compared to the 8,422 that were proposed during the planning of the test. CGE&Y increased the initial numbers to take into account planned errors and to adjust the load to account for increased demand given the time delay in execution of the test. Table 4.1.3.1e reflects the breakdown of total pre-order transactions by interface type. Of the 14,387 pre-order transactions 12,053 were EDI transactions and 2,334 were GUI transactions resulting in a breakdown of 16.2% GUI (IMA) and 83.8 % EDI transactions. Counts by various query transaction types are reflected in the rows under their associated IMA, EDI and Total Pre-Orders column headings. Failed transactions are those that received error messages as opposed to a valid response.

Table 4.1.3.1e Stress Test Pre-Order Transactions Processed

Capacity Stress Test Pre-Order Volumes Processed										
Transaction Type	GUI			EDI			Total Pre-Orders			
	Successful	Failed	Total	Successful	Failed	Total	Successful	Failed	Total	%
Appointment Availability	57	0	57	111	0	111	168	0	168	1.2%
Appointment Selection	0	0	0	0	0	0	0	0	0	0.0%
Address Validation	760	0	760	3950	31	3981	4710	31	4741	33.0%
Customer Service Request	576	0	576	3061	113	3174	3637	113	3750	26.1%
Facility Address	430	0	430	2323	29	2352	2753	29	2782	19.3%
Loop	98	0	98	539	4	543	637	4	641	4.5%
Service Availability	195	0	195	820	246	1066	1015	246	1261	8.8%
Telephone Number Assignment	187	0	187	814	12	826	1001	12	1013	7.0%
Telephone Number Select	31	0	31	0	0	0	31	0	31	0.2%
Total	2334	0	2334	11618	435	12053	13952	435	14387	100.0%
Percent	16.2%	0.0%	16.2%	80.8%	3.0%	83.8%	97.0%	3.0%	100.0%	

Table 4.1.3.1f reflects both IRTM results and results achieved by the Pseudo-CLEC for pre-order transactions submitted through the GUI (PO-1A). These results are reported as either calculated using IRTM or the Pseudo-CLEC data. The IRTM results were reported to CGE&Y by Qwest and the Pseudo-CLEC results were calculated by CGE&Y from the transaction data that was generated from the 12-month Capacity Test. “IRTM Result Part a” reflects the response time for the screen to become available to the user once the transaction is queried. “IRTM Result Part b” represents the time to receive the response for the specified transaction. These two calculations combined provide the overall response time for the PO-1A measurement for each transaction type. Under the “Pseudo-CLEC Results” heading, the time interval under “IRTM Result Part a” was provided to CGE&Y by Qwest since the Pseudo-CLEC software does not have the ability to measure the time for the screen to become available once requested.

The approach Qwest used to provide the missing time interval for the GUI PO-1A total response time interval was agreed to by the members of the Capacity Subcommittee and presented to the TAG for approval. Qwest calculated the Part a component to provide CGE&Y by averaging PID results for the PO-1A measure for the months of May and June, 2001. The “Pseudo-CLEC Result Part b” column shows the actual time interval once queried for the response to appear on the screen. This interval was arrived at from data captured by the Pseudo-CLEC. The “Pseudo-CLEC Result” column represents the total time interval for the Pseudo-CLEC to receive the response to the query. This should be used to compare to the “IRTM Total.”

The average response time for the GUI pre-order transactions was within the benchmarks per PID 6.3 regardless of whether it is IRTM or Pseudo-CLEC generated results. In fact, IRTM results are within plus or minus two seconds of the Pseudo-CLEC results for each transaction except GET CSR, where IRTM response times are almost twice as long as those experienced by the Pseudo-CLEC. However, any differences

detected between IRTM and Pseudo-CLEC is immaterial given that no transaction results, IRTM or Pseudo-CLEC, come close to exceeding the agreed to benchmarks.

Table 4.1.3.1f Stress Test PO-1A Results

Media - GUI	IRTM Results			Pseudo-CLEC Results		
Category	IRTM Result Part a	IRTM Result Part b	IRTM Total	Pseudo-CLEC Result Part a	Pseudo-CLEC Result Part b	Pseudo-CLEC Total
Appointment Availability	0.51	2.94	3.45	0.51	1.03	1.54
Address Validation	1.06	4.7	5.76	1.13	2.90	4.03
Customer Service Request	0.67	8.48	9.15	0.67	4.78	5.45
Facility Availability	0.64	12.22	12.86	0.63	14.00	14.63
LOOP	0.62	7.67	8.29	0.65	9.16	9.81
Service Availability	0.5	4.61	5.11	0.51	6.46	6.97
Telephone Number Assignment	0.64	3.93	4.57	0.93	3.30	4.23

* Pseudo-CLEC Part A result is the average of the May/June 2001 IRTM Part A results

Table 4.1.3.1g presents the pre-order transaction response time achieved during the stress test for transactions submitted over the EDI interface (PO-1B). The Pseudo-CLEC results include average transaction time for all pre-order transactions performed during the 4-hour stress test. As is evident from the table, Pseudo-CLEC response times are much greater and fail to meet the benchmark for all transaction types.

CGE&Y issued AZIWO2119 to document the failure of Qwest's OSS to achieve benchmark standards for EDI pre-order transactions submitted during the stress test and to document the discrepancy between IRTM and Pseudo-CLEC results. Qwest's response to this IWO and further analysis on the part of CGE&Y revealed that due to the heavy stress volume experienced during the third hour of the test, 11 a.m. MST to 12 p.m. MST, EDI pre-order response times were extraordinarily slow. Successful responses were received that exceeded the 200 second time-out that is placed on IRTM. In fact one successful query response time exceeded 400 seconds in duration. As mentioned above and in the analysis section below comparing IRTM to actual test response times, the BPL is set to time out after 200 seconds if no response has been generated. These time outs are excluded from the calculation of pre-order response times. Therefore, in order to make an adequate comparison of results achieved through testing to IRTM response times, any transaction exceeding 200 seconds should be excluded as per PID 6.3 for the IRTM measure.

In addition, Qwest states in the response to AZIWO2119 that during the third hour of the Stress test IRTM encountered an outage unrelated to the stress test.

Table 4.1.3.1h contains Pseudo-CLEC results that excluded the third hour of data from the PO-1B measurements. This analysis is relevant in determining whether IRTM results are comparable to actual CLEC response times; however, in determining whether Qwest's OSS maintained an adequate level of performance while processing the volume of transactions during the third hour of the stress test the results in Table 4.1.3.1g should be used.

It is important to remember that the purpose of the stress test is to determine at what point while increasing volumes, the performance level of Qwest's OSS begin to deteriorate. There is no pass/fail criteria for the Stress Test. CGE&Y's responsibility was to report the Stress Results.

The results of the stress test tend to reflect that pre-order response times begin to suffer once volumes reach those achieved during the third hour of the stress test. Those volumes were over 200% of the 12 month test busy hour traffic. Table 4.1.3.1i shows the Stress Test response times by hour. Table 4.1.3.1ii shows the Stress Test pre-order transaction volumes by hour.

Table 4.1.3.1g Stress Test PO-1B Results

Media	Category Description	IRTM Result	Pseudo CLEC
EDI	Appointment Availability	6.00	24.49
EDI	Address Validation	4.60	22.7
EDI	Customer Service Request	6.50	24.95
EDI	Facility Availability	11.55	30.13
EDI	Loop	8.20	30.96
EDI	Service Availability	8.28	30.68
EDI	Telephone Number Assignment	3.44	23.76

Table 4.1.3.1h Stress Test PO-1B Results With Hour 3 Volumes Removed

Media	Category Description	IRTM Result	Pseudo CLEC
EDI	Appointment Availability	6.00	7.85
EDI	Address Validation	4.60	6.09
EDI	Customer Service Request	6.50	8.5
EDI	Facility Availability	11.55	13.66
EDI	Loop	8.20	14.38
EDI	Service Availability	8.28	13.92
EDI	Telephone Number Assignment	3.44	7.07

Table 4.1.3.1i Stress Test PO-1B Results by Hour

Media	Transaction Type	09:00 MST	10:00 MST	11:00 MST	12:00 MST
EDI	Appointment Availability	6.95	8.70	65.56	7.61
EDI	Address Validation	5.14	6.77	63.16	6.07
EDI	Customer Service Request	7.59	9.05	64.94	8.61
EDI	Facility Availability	13.56	12.93	70.08	14.47
EDI	Loop	13.79	15.18	70.94	14.01
EDI	Service Availability	12.88	14.47	70.46	14.11
EDI	Telephone Number Assignment	6.24	7.86	64.16	6.89

Table 4.1.3.1ii Stress Test Pre-Order Volumes by Hour

Media	Transaction Type	09:00 MST	10:00 MST	11:00 MST	12:00 MST	Total
EDI	Appointment Availability	21	30	32	28	111
EDI	Address Validation	746	1045	1159	1031	3981
EDI	Customer Service Request	595	833	924	822	3174
EDI	Facility Address	446	615	686	610	2357
EDI	Loop	102	141	159	141	543
EDI	Service Availability	200	280	310	276	1066
EDI	Telephone Number Assignment	155	216	240	215	826
	Total	2265	2944	3510	3123	12058

During the third 11 to 12 hour of the test, 11 a.m. MST to 12 p.m. MST, the EDI responses were slow. See AZIWO2119 discussed below and in the section titled “IRTM vs Pseudo-CLEC Pre-order Response Time.”

Order Test Results and Analysis

The actual volume of LSRs executed during the Stress Test as compared to the number that was proposed during the planning phase is as follows:

	TOTAL	EDI	GUI
Stress Test	3121	2686	435

The difference between the number of orders planned and that actually executed is to take into account the additional load that would have been experienced from the date the test was planned to run and the actual date of the test.

Table 4.1.3.1j shows the actual orders that were processed:

Table 4.1.3.1j Stress Test LSRs Processed

Stress Test Orders Processed						
Product	Product Count	% of Orders	Scenario Type by Product	GUI Total	EDI Total	Total
LNP	1711	54.8%	Retail to LNP (V)	45	265	310
			Retail to LNP (W)	209	1192	1401
UNE Loop with LNP	38	1.2%	Retail to UNE Loop (V)	1	11	12
			Retail to UNE Loop (Z)	4	22	26
UNE Loop without LNP	764	24.5%	Retail to UNE Loop (V)	3	25	28
			UNE Loop (D)	23	122	145
			UNE Loop (N)	88	503	591
Resale	511	16.4%	Resale (C)	30	175	205
			Resale (D)	22	128	150
			Resale (N)			0
			Retail to Resale (V)		45	45
			Retail to Resale (W)	3	30	33
			Retail to Resale (Z)		78	78
UNE-P	97	3.1%	Retail to UNE-P (V)	2	13	15
			Retail to UNE-P (Z)		15	15
			UNE-P (C)	5	34	39
			UNE-P (D)		28	28
			UNE-P (N)			0
Totals	3121	100.0%		435	2686	3121
Percent				13.9%	86.1%	100.0%

Table 4.1.3.1j shows the test mix and number of orders that were executed and processed for the System Capacity stress test. The specific product types included in the test are represented along with their associated counts and the percentages of overall orders executed in the test. The GUI, EDI and Total columns show the counts and percentages for each scenario product type broken down by scenario used for that product.

There were a total of 3,121 orders processed which consisted of 435 orders submitted through the GUI interface and 2,686 orders submitted through EDI. Of the orders processed, there were 2,347 EDI and 380 GUI for a total of 2,727 orders which received a FOC. There were 193 LSRs that ended up as rejects, all of which were planned to reject. A total of 201 LSRs fell to manual intervention of which three of these were inadvertently processed and received a FOC but the results have been excluded from the calculation of PO-5 as per the requirements of the TSD.

PO-5 results for the System Capacity Stress Test indicate that 100% of the LSRs issued that received a FOC met the 20 minute benchmark. One LSR received a FOC in just over 21 minutes, but this LSR was inadvertently handled manually and therefore excluded from Capacity Test results as per TSD 2.10 (see Appendix O, Stress Test PO-5 Results). However, CGE&Y has issued an IWO which documents the inadequacy of the PO-5 measure in that an order must FOC in order to be included in the measurement calculation to determine whether or not the benchmark was met. If it does not FOC, it is excluded from the measure.

The following provides a brief summary of the issues discussed above that were identified during the System Capacity stress Test.

- During the third hour of the test, the EDI gateway experienced slow response times that failed to meet the PID benchmark (see AZIWO2119, previously discussed).
- IRTM results for EDI response times were significantly different than the results calculated by using data collected by the Pseudo-CLEC (see AZIWO2119, previously discussed).

CGE&Y is satisfied that Qwest has adequately explained the apparent discrepancy. Therefore, the IWO was closed.

IRTM vs Pseudo-CLEC Pre-order Response Time

PO-1 measures response time, i.e., the interval between query and response, for seven different pre-order/order transaction types

performed by the CLECs. The measure does not report actual CLEC results, but rather the results of simulations of CLEC queries. Qwest developed scripts for each type of transaction (e.g., appointment scheduling) whose steps (e.g., select “next” from a screen, choose a screen) were designed to reflect the activities performed by the CLECs. Qwest’s IRTM system performs simulations, and performance results are calculated from the simulations.

This measurement is intended to report against a “standard” response time that has been agreed to by the TAG and varies according to the specific transaction (above) and transmission medium (IMA vs. EDI). According to Appendix C of the MTP, PO-1 is to be evaluated as part of the Functionality and Capacity Tests.

During the performance measurement audit of the PO-1 measure CGE&Y questioned whether IRTM response times were an adequate representation of true response times experienced by CLECs. The PID allows the exclusion of rejected requests, errors and those transactions which time out from the calculation of the PO-1 results. The IMA IRTM system has a time out of 230 seconds. Therefore, CGE&Y’s assessment of IRTM during the Performance Measurement Audit was that only queries successfully processed in the normal course of doing business are used to calculate the PO-1 measurement, as opposed to what CLECs actually experience leading more to the conclusion that perhaps IRTM is not representative of pre-order response times experienced by the CLECs. CGE&Y issued AZIWO01 concerning this topic. CGE&Y further recommended that a method be developed to gather data for the PO-1 measure using actual CLEC response times. This issue was deferred with the position that CGE&Y would accumulate independent data on response times during the functionality and capacity portions of the OSS test to compare results to Qwest’s IRTM results. Based on TAG agreement, pre-order queries that time out are excluded from PO-1A & B, and reported in PO-1C. Therefore, AZIWO01 was closed.

Data gathered early during the Functionality Test confirmed CGE&Y’s initial evaluation of IRTM in regards to EDI transaction response times and resulted in the issuance of AZIWO1109. Qwest responded to this IWO stating its position that CGE&Y’s data is inconsistent with IRTM data and that the difference draws an apples-to-oranges comparison. Qwest believes that data gathered during functionality testing should not be used to evaluate IRTM because of decisions and actions on the part of the Pseudo-CLEC that have a significant effect on pre-order response times.

This IWO was discussed extensively between the parties during a TAG meeting. A general agreement was reached that actual CLEC pre-order response times would be gathered during the capacity portion of the OSS test. These results were used to make the final determination of whether IRTM is a true representation of the response times experienced by the CLEC service representatives. Therefore, the functionality portion of the OSS test contains findings only on the functionality of Qwest's pre-order transactions and makes no conclusions as to whether or not the benchmark was achieved.

Results from the System Capacity Test reflect that performance benchmarks are met for the PO-1A and PO-1B measure regardless of whether the measurement tool is IRTM or actual Pseudo-CLEC data. For the most part, the results are very close but are not identical; all are well within the benchmarks that have been agreed upon by the parties in Arizona.

PO-1B Pseudo-CLEC EDI results are expected to be greater than the IRTM results because the Pseudo-CLEC results are measured on HP's side of the interface; and IRTM, while outside the firewall, is still connected to Qwest's internal network and is measured on the Qwest side of the network interface. Therefore, the response time attributable to HP's network connection and HP's internal processing cannot be measured by IRTM.

Table 4.1.3.1k shows the Capacity Test PO-1B results with the Standard Deviations.

Table 4.1.3.1k Capacity Test PO1-B Measurements with Standard Deviations

Media-GUI	IRTM Results		Pseudo-CLEC Results	
	IRTM Result	Std Dev	Pseudo CLEC Result	Standard Deviation
Appointment Availability	5.86	4.90	5.91	1.88
Address Validation	4.31	2.06	5.24	2.67
Customer Service Request	6.86	1.41	7.48	2.94
Facility Availability	14.67	6.89	12.58	3.89
Loop	8.28	1.02	13.27	3.66
Service Availability	8.00	3.67	11.86	2.34
TN Assignment	3.24	2.01	5.93	2.56

The same analysis is relevant for comparing the IMA-GUI response times that were obtained during the System Capacity Stress Test to results obtained using IRTM. However, discrepancies arise when comparing stress test EDI results to that of IRTM. These discrepancies resulted in the issuance of AZIWO2119. Not only were IRTM results

significantly different than results obtained using the Pseudo-CLEC data, but EDI failed to meet benchmarks for all the pre-order transaction types. Analysis of the Pseudo-CLEC data revealed that during the third hour of the stress test, nearly 500 responses were received with response times in excess of 200 seconds, the IRTM time out threshold. The inclusion of these time intervals in part explains the difference in results in calculating PO-1B using stress test generated data.

Qwest's response to AZIWO2119 acknowledged the 200 second time out associated with IRTM and argued that timeout thresholds are rarely experienced in the normal course of processing pre-order transactions, and that the result from the capacity stress test could be due to the design of the EDI system. The design, coupled with the extraordinarily high volumes of transactions sent during the third hour of the stress test, placed the system in a condition that produced good transaction responses that exceeded the timeout threshold. However, IRTM results from the stress test did not reflect these long response time intervals.

Qwest further pointed out that the third hour of the stress test produced volumes far in excess of that originally planned, which was 150% of peak load from the 12-month Capacity Test. The actual load however during the third hour of the test was 220% of the peak hour load. Although the system did slow to the point of failing to meet benchmarks, all transactions were successfully processed under this extremely heavy load. The purpose of the stress test was to generate a heavy enough load to determine the point at which performance began to deteriorate. That point appears to be between 150% and 220% of the peak hour load. It is highly unlikely that this load would ever be realized in a production environment because Qwest's interfaces are scaled to support volumes on a minimal six month rolling basis. Qwest adds hardware and software as these increased volumes begin to materialize. The relevance of this test is to determine whether Qwest has sufficient capacity to support current load and can forecast far enough into the future to allow time to ramp up. With Qwest's explanation, the IWO was closed.

For purposes of comparing IRTM to actual Pseudo-CLEC response time results, the two must be calculated the same. In other words, since IRTM excludes response intervals greater than 200 seconds, CGE&Y's calculated results using Pseudo-CLEC data must also exclude these transaction times. Table 4.1.3.1h provides Pseudo-CLEC results applying the timeout exclusion. Another factor that should be taken into consideration is that IRTM experienced an outage during the third hour of the stress test that according to Qwest was unrelated to the stress test volumes. No data points were provided by IRTM from the

11 a.m. MST to 12 p.m. MST time frame, which would also create differences between the Pseudo-CLEC and IRTM results. In order to make a valid comparison, all transaction times during this time period should be excluded from the calculation using Pseudo-CLEC collected data. Once this exclusion is applied, the EDI results obtained from the stress test are similar to those obtained from the 12-month Capacity Test.

CGE&Y finds that despite its earlier reservation dealing with IRTM, results do not dispute that IRTM is an adequate measurement tool to gauge pre-order response times. This is based on the fact that when compared to each other, the times were relatively close. The worst transaction, the Loop Qualification Transaction had an IRTM response time of 8.28 +/- 1.02 seconds and the Pseudo-CLEC's response time was 13.28 +/- 4.16 seconds. Although the response time difference was 5 seconds, the Pseudo-CLEC's standard deviation (SD) was much larger than IRTM's SD. Additionally, the Pseudo-CLEC and Qwest took their measurements at different points in the network. Although IRTM is outside Qwest's firewall, it is still connected to Qwest's internal network. The Pseudo-CLEC had a dedicated T1 line connection between its network and Qwest's. For that reason alone, one would expect the response times to be greater for the Pseudo-CLEC than for IRTM. Finally, PO-1 results are reported on a monthly basis, which should reduce variances because of network delays, traffic volumes, etc.

4.1.4 Results

The System Capacity Test is designed to determine whether Qwest's current OSS are sufficient to process forecasted volume 12 months from the commencement date of the test. The test was conducted in a production environment supplementing existing production loads to arrive at anticipated forecasted volume. The Capacity Test extended over an eleven hour time frame, commencing at 7:00 a.m. MST on August 10, 2001, and ending at 6:00 p.m. MST. A total of 21,500 pre-order transactions were executed and reported consisting of 18,316 EDI and 3,184 GUI transactions. A total of 4,915 LSRs were submitted of which 4,217 were submitted through EDI and 698 through GUI.

The Capacity Test also includes a stress test, which places an additional load equal to 150% of the 12-month test's load to current production volumes. These loads are incrementally increased over a short time period. The purpose of this test is to gather performance measurement data during each of these time periods to evaluate the capacity levels at which Qwest's OSS performance begins to deteriorate. The stress test was performed over a four-hour period, 9:00 a.m. MST through 1:00 p.m. MST, and was conducted on August 17, 2001. A total of 14,387 pre-order transactions were executed consisting of 12,053 EDI

and 2,334 GUI transactions. A total of 3,121 LSRs were submitted of which 2,686 were submitted through EDI and 435 through GUI.

The Capacity Test was originally intended to evaluate whether Qwest's systems could meet benchmark standards set for pre-order transactions (PO-1), percent order flow-through (PO-2) and firm order confirmations (FOCs) (PO-5) given the increased load. However, by definition, all Capacity Test orders are designed to flow through or are specifically intended to fall out for manual intervention, therefore by agreement of the Subcommittee, the Capacity Test was limited in scope to evaluation of the PO-1 and PO-5 measures. Currently, Qwest does not measure actual CLEC pre-order transactions to report results for PO-1, but uses a simulated transaction system known as IRTM. An integral part of the Capacity Test was to collect actual response times experienced by the Pseudo-CLEC in order to compare results to those reported by Qwest during the Capacity Test using IRTM. This data did not refute the assertion that the results generated from Qwest's simulated system are a true representation of pre-order transaction response times experienced by CLEC service representatives.

The first task of the Capacity Subcommittee was to determine the volumes to be used for the test. These volumes included expected demand for the entire Qwest 14-state region for those systems that support all 14 states. Regional systems were tested for volumes supporting that region. Once the committee agreed upon volumes they were submitted to the TAG for approval. Simultaneously, other aspects of the test plan were developed by the committee, which included order transaction mix, distribution between EDI and GUI, etc. Qwest provided the test accounts to CGE&Y, which were then applied to the various scenarios. Once preparation activities for the test were complete, several ORTs were performed to ensure that all orders would flow through as anticipated and that the necessary processes to perform the test and gather the data generated were in place and functional. Once Qwest's systems successfully passed the 12-month test, the busy hour volume was used as the base for the stress test. This volume was incremented in fifteen-minute intervals until a volume 50% higher than the base volume was reached. This higher volume was input at a sustained rate for two hours.

The System Capacity and Stress Test yielded the following results:

- ❑ The 12-month forecasted volume for pre-order queries transmitted to Qwest's OSS were processed satisfactorily. At no time during the 12 month test did the added test volumes, in addition to the normal production activity, cause Qwest's OSS to abnormally terminate or disrupt operations.
- ❑ The stress test volume during the third hour of the test caused the EDI pre-order process to deteriorate. However, the third hour volume was over 200% of the 12 month forecasted load.

- ❑ The pre-order performance results (PO-1A (GUI) and PO-1B (EDI)) obtained from the 12-month Capacity Test are within the benchmarks required by the PID 6.3 for each query type (see Table 4.1.3.4-2 for a detailed list of the types of pre-order transactions along with the associated benchmark). This is true for the times reported by IRTM as well as times calculated from the test data provided by the Pseudo-CLEC.
- ❑ The FOC performance results (PO-5A (GUI) and PO-5B (EDI)) obtained from the 12-month Capacity Test are within the benchmarks required by PID 6.3, which is 95% of all FOCs received within twenty minutes for both GUI and EDI for all LSR product activity types. The only LSR that received a FOC time greater than the benchmark was an order intended to error out but was inadvertently handled manually by a Qwest employee. This order was excluded from the results since it was not handled in a mechanized environment as provided in Section 5.2.2.2 (b) of the TSD 2.10.
- ❑ PO-1A results obtained during the stress test are within the benchmarks required by PID 6.3 for all query types. This is true for the times reported by IRTM as well as times calculated from the test data provided by the Pseudo-CLEC.
- ❑ PO-1B results obtained during the stress test did not meet the benchmarks required by PID 6.3. During the third hour of the test, responses were delayed due to high transaction volumes. If EDI transaction intervals obtained during the third hour of the test are excluded from the results, as in CGE&Y's opinion should be the case (see discussion of AZIWO2119 in Section 4.1.3.1), the resultant average response times would then be within the PID benchmarks and comparable to results achieved by IRTM.
- ❑ PO-5A and PO-5B results obtained during the stress test are within the benchmarks required by PID 6.3 for all LSR product activity types. The three LSRs that received a FOC time greater than the established benchmark were manually handled and excluded from the results as provided in Section 5.2.2.2 (b) of the TSD.
- ❑ The level of performance for receiving pre-order responses from Qwest's OSS begins to deteriorate with loads in excess of 150% of the peak hour load.
- ❑ Data from the 12-month Capacity Test does not dispute that IRTM is an adequate tool for gauging pre-order response time intervals that Qwest's OSS are providing to the CLECs. Once the timeout exclusion is applied to EDI results from the stress test, stress test results also support this conclusion.

Given the above findings it is CGE&Y's conclusion that Qwest's OSS continued to provide a level of performance well within the benchmarks established during all phases of the System Capacity Test.

Exit Criteria

For the System Capacity Test to be considered completed, per the MTP and TSD, the following exit criteria needs to be satisfied:

Criterion	Completed
The pre-order and order System Capacity Test has been completed according to the plan	✓
All tests against the appropriate performance measurements including associated pre-ordering and ordering benchmarks have been completed	✓
All incidents that were opened in conjunction with the System Capacity Test have been resolved and/or closed	✓
All of the data associated with the System Capacity Test has been captured and retained by the Pseudo-CLEC	✓
The System Capacity Test evaluation and findings are included in the TA's final report compiled for the ACC	✓
All documentation related to the System Capacity Test is verified as complete by the TA and stored in the master project file	✓
All orders have been cancelled prior to provisioning	✓

4.2 Systems Scalability

4.2.1 Introduction

Qwest's pre-order and order activities depend on the capabilities of its OSS. CGE&Y performed a System Scalability review to determine if Qwest has adequate procedures for scaling their systems so that they will have adequate capacity to handle CLEC loads. The System Scalability review includes an examination of the OSS interfaces, systems that support the interfaces, and databases that are accessed in order to provide the necessary information for the OSS function.

In this review, CGE&Y evaluated Qwest's

- procedures for tracking OSS load and capacity,
- procedures for forecasting future OSS load,
- process for providing OSS computer growth, and
- historical OSS load information.

System Scalability also evaluates the backup plans, disaster recovery plans, and other procedures that guide Qwest's staff in executing the OSS interface capacity planning.

4.2.2 Scope

This section describes the scope of the System Scalability review. The first step was to gather all relevant documentation to review and gain an understanding of the processes and procedures in place to detect the need to, and, increase system capacity without affecting system performance. See Appendix M for a list of documentation that was reviewed as part of this evaluation. In addition to the review of documentation, CGE&Y conducted structured discussions with Qwest subject matter experts (SMEs). These discussions were used to gain clarification on sections of the received documentation, to better understand the Qwest system architecture and to gain knowledge of the capacity adjustment procedures used within Qwest to better determine the adequacy of these procedures.

A review of Qwest's procedure for tracking OSS loads and capacities was conducted (Capacity Analysis-IMA). Interface traffic, processing utilization, and industry performance measurements are included in the review.

An evaluation of the procedure for forecasting OSS loads was necessary in order to determine if this was performed in accordance with the documentation received. This evaluation includes comparing previous forecasts against historical OSS load information for both Qwest and CLEC activity.

CGE&Y's architecture SMEs performed an assessment to determine if Qwest's OSS interfaces can quickly be made scalable to accommodate increases in CLEC volumes beyond the volume that was planned for the Capacity Test. (see Section 4.1.3.1 for a comparison of planned pre-order and order volumes versus actual Capacity Test volumes) CGE&Y performed this analysis based on documentation provided by Qwest. The documentation details how Qwest has designed its OSS interfaces to be scalable for increased demand.

The scope of the System Scalability review is summarized as follows:

- Review procedures for tracking OSS loads and capacities (IMA Capacity Analysis)
- Evaluate procedures for forecasting future OSS loads /Wholesale CLEC Forecast/Projections
- Assess process for providing OSS computer growth /Comprehensive Mainframe Planning
- Conduct interviews with Qwest network managers
- Perform a review of the Qwest disaster recovery process

4.2.3 Process

CGE&Y met with Qwest management to review their processes and conduct interviews. During these meetings a number of questions as stipulated in the TSD and contained in Table 4.2.3a, were directed to the appropriate Qwest managers. In preparation for this meeting, CGE&Y reviewed Qwest's Capacity Planning Process document. The documentation included a description of the process and forecasting assumptions to support projected CPU demand, memory utilization and transfer rate used to determine future capacity requirements.

Test Results and Analysis

CGE&Y's overall analysis of Qwest's ability to ramp up system capacity to handle increased volume consisted of reviewing Qwest's documentation, conducting interviews and if possible, observing Qwest's ability to carry out procedures contained within the documentation. As part of its evaluation, CGE&Y reviewed Qwest's procedures for tracking OSS loads to determine when to implement a project to increase capacity and its process for forecasting CLEC demand for OSS functions. The planning and implementation for OSS growth was also analyzed along with a review of Qwest's disaster recovery process.

❖ Review procedures for tracking OSS loads and capacities

Information about Qwest's procedures for tracking OSS loads and capacities was gathered during the interview to supplement the information contained within the "Interconnect Mediated Access Capacity Analysis" documentation that was provided. The IMA production/test environment consists of two

servers: the IMA web server and the IMA business server. Measurement tools contained within these servers are used to monitor the overall system utilization (global) as well as transaction based utilization.

❖ Evaluate procedures for forecasting future OSS loads/Wholesale CLEC Forecast/Projections

The “Wholesale CLEC Forecast/Projections” report was supplied to aid in CGE&Y’s understanding of the processes in place within the Qwest wholesale organization to provide CLEC forecasting information. This information is developed through the combined organizational effort of the Finance, Service Delivery, Strategic Planning and Wholesale Interconnections Operations teams in order to provide anticipated volume outputs that support Product, Interconnection Operations and Network Centers, and personnel allocation planning efforts. The report also describes, in part, the ability for scalability changes and contingency planning in support of changing CLEC needs. Qwest employs a thorough and encompassing analysis on historical data, information they receive from the account management and product management teams. These data are then used to create trends, which are further refined into forecasts. For purposes of confidentiality, CGE&Y cannot detail the actual procedures that Qwest takes in order to produce their future OSS loads and CLEC forecasts. This data is also used to determine the necessary levels of support personnel required to maintain CLEC support as well as normal business requirements. CGE&Y was dually impressed with Qwest’s contingency plans, which address dramatic increases in CLEC volume activities.

❖ Assess process for providing OSS computer growth /Comprehensive Mainframe Planning

CGE&Y referenced Qwest’s “Comprehensive Mainframe Planning Process” documentation for information about Qwest’s process for providing OSS computer growth and comprehensive mainframe planning. In the past, Qwest’s planning for mainframe processor, memory, disk and tape sub-areas was done by groups responsible for each sub-area and was not totally integrated. Changes to the sub-area plans were not always coordinated, resulting in potentially unnecessary procurement and potential software unavailability resulting in increased licensing costs. Qwest recognized this area for improvement and implemented a team of Information Technology (IT) professionals to reengineer this process. Now, Qwest’s OSS computer growth and mainframe planning is conducted by a central team which has lead to improved coordination of hardware changes and a reduction of unnecessary expenses.

❖ Conduct interviews with Qwest network managers

CGE&Y interviewed one of Qwest’s data communications managers who described Qwest’s network architecture as it relates to the CLEC environment.

CLECs can access IMA by dialup or private line. The manager described the network's redundancy, protocols and monitoring software in place to monitor the network.

Qwest's backbone network consists of high-speed links (T1 and above) between the data centers. In the each data center Fiber Distributed Data Interface (FDDI) Local Area Networks (LANs) provide high speed communications between the multiple routers in each location and the OSS, gateways, and communications servers that provide CLEC access, via a firewall, to IMA which then routes the information (LSR or pre-order transactions) to the appropriate OSS.

Multiple high-speed links and multiple servers provide for disaster recovery and provide additional bandwidth for user traffic.

❖ Perform a review of the Qwest disaster recovery process

In addition to interviews with Qwest SMEs, CGE&Y referenced Qwest's "Disaster Recovery Plan" to gather information about Qwest's disaster recovery process. This process is designed to provide response resources commensurate with the magnitude and scope of any event or situation that would have a significant negative impact on Qwest, its employees or customers. Qwest has implemented teams at each level and across areas in order to react and deal with situations with a standard recovery process. Qwest has established procedures for guiding team members through issues to a successful recovery. Qwest also has documented guidelines to assist employees to the transition to normal operations and steps to resolve any gaps that were identified to improve the overall process. The disaster recovery plan outlines the roles and responsibilities of response teams, management teams, operations centers and staff.

The System Scalability review is to provide answers to certain questions detailed in Section 5.3.3 of the TSD 2.10. Table 4.2.3a describes these questions, which were asked during the interview process, along with the responses to those questions. Review of Qwest provided documentation along with information gathered during the interview process were the basis for CGE&Y's findings contained within the Results section below. In addition, Qwest provided CGE&Y access to internal websites that provided information to augment the documentation and the interviews. Where feasible, CGE&Y made observations to ensure Qwest's current operations were capable to implement the scalability procedures described within the documentation.

Table 4.2.3a System Scalability Questionnaire

Scalability Evaluation			

	Scalability Evaluation		
Item	Evaluation Criteria	Result	Comments
	Mechanized Interfaces		
1.	Is there a defined documented EDI migration path for CLECs to develop automated interfaces to connect to Qwest?	Yes	Qwest has documentation that supports the EDI APIs.
2.	Are Qwest's electronic interfaces scalable to support CLEC inter-connectivity to Qwest systems?	Yes	This is done through both network and systems planning.
3.	Is the WAN network backbone adequately sized to meet current and projected CLEC usage?	Yes	The Network Capacity Planning Group within Qwest is responsible to monitor the WAN, project future CLEC demand and timely plan for reinforcement to the network. Process and procedures are supported through documentation.
4.	Is network dial in access for CLEC dial in users sufficiently scalable to support increased network workloads?	Yes	Qwest's design was built to scale by number of access lines to terminating modem poles using Cisco equipment.
5.	Are appropriate network protocols for current and projected CLEC transaction activity utilized?	Yes	Qwest has various protocols for different access methods, including mail, e-mail, fax, dial-in, EDI and private T1 with web GUI. Protocols used are TCP/IP, Fax modem and standard modem protocol.
	Automated Systems		
1.	Are processes for capacity planning and design in place, sufficient and effectively executed by Qwest?	Yes	The Wholesale Interconnect Group has a staff of planners responsible for capacity planning for automated systems. Qwest's documented processes adequately support this function and the process is well defined through the IMA System Scalability Process Document and Process Flow Diagram which were reviewed by CGE&Y.
2.	Is there a documented process and methodology in place, which is used to	Yes	The Capacity Planning Group is responsible for

	Scalability Evaluation		
	analyze the scalability of systems gateways and interfaces?		analyzing the scalability of both the system gateways and interfaces. The process and methodology are included in the IMA System Scalability Process Document and Process Flow Diagram.
3.	Do redundant sites exist for use in processing CLEC orders?	Yes	Thornton and Denver, Colorado are primary data centers for processing of CLEC orders with the Omaha, Nebraska Data Center responsible for back up. The change over to redundant servers is transparent to the co-provider in the case of hardware failure.
4.	Do the OSS and gateway interfaces in use adequately scale to support projected capacity growth? Will the Gateway and other architectures in use by Qwest scale quickly for unexpected CLEC growth?	Yes	Gateways scale by use of modular components in regards to operations support. Currently the Load and Performance Group certify that the OSSs and gateway interfaces will adequately support projected volume. The IMA System Scalability Process Document and Process Flow Diagram provide the supporting documentation for the Load and Performance Group to utilize in performing its certification.
5.	Is the amount of disk storage per server actively monitored and managed?	Yes	The Capacity and Planning Group within the Communications and Information Services (CIS) organization is responsible for management of disk storage space. Qwest monitors each server with set parameters and paging for alarms
6.	Are the thresholds for acquiring additional disk storage sufficient to accommodate unexpected CLEC growth?	Yes	Qwest has dynamic storage systems (databases) which are connected to the enterprise shared storage systems. Logging systems

	Scalability Evaluation		
			with more than 100GB of storage will also be connected to enterprise shared storage.
7.	Is there an established disaster recovery planning process?	Yes	Qwest's Technical, Policy, Standards and Processes Group provides a document with a template to ensure every application is properly planned and documented. This is a Qwest regional standard. Every application is required to complete this document before going into production. Qwest tracks all information concerning the implementation of the application in order to be able to re-create the application in the case of a disaster.
8.	Is the disaster recovery process periodically tested to assess Qwest's ability to recover from a disaster?	No	At the time of the scalability evaluation, Qwest did implement periodic walk-throughs to ensure anything that has changed is updated such as contacts, software, infrastructure, etc. However, as was determined during the second attempt of performing the Capacity Test CGE&Y discovered that Qwest does not conduct actual disaster recovery tests to verify their procedures. AZIWO1193 was issued in response to this observation.
9.	Are tape backup procedures in place and actively utilized with archival procedures used to secure the backups?	Yes	Qwest provides backup for their systems using the IBM product ADSM. The backup is accomplished by a UNIX process (daemon) running locally on each box.
10.	Is there an established methodology for maintaining CLEC processing levels?	Yes	Currently there is an Interconnect Response Time Measurement (IRTM) tool that monitors pre-order response times. Any trending up of response times is investigated.

	Scalability Evaluation		
			However, Qwest has procedures in place to monitor every aspect of performance to its CLEC customers. One such mechanism is through its Performance Indicator Definitions which produces monthly results on 47 areas of performance. If a negative impact on processing levels is detected, the Capacity Planning Group investigates and if necessary, begins planning a relief project.
11.	Is there an established methodology for monitoring the ability to scale? Is sufficient monitoring done and is it effective to implement solutions that provide sufficient service levels to CLECs?	Yes	There is both a scope specific process for forecasting quarterly (forecast up to three quarters into the future) and actively for daily and hourly spikes (Capacity Planning System-CPS). The ability to scale is monitored on a daily/monthly basis. Data are collected to ensure that Qwest is operating within the limits of the forecast. If actual volume appears to be exceeding the forecast, corrective steps are taken immediately.
12.	Is there a process in place to monitor transaction response times and are success ratios frequently reviewed to identify systems opportunities to improve them?	Yes	The project team, which implements the IRTM tool that monitors response times, is responsible for reviewing results and detecting trends in response intervals and failure rates. Any trending up of response times or time outs is investigated for potential corrective action.
	Capacity Planning Procedures		
1.	Are there established processes for obtaining performance data to determine future growth patterns?	Yes	Data are collected and published on the Qwest Planning website which is an automated system. Qwest utilizes this data to

	Scalability Evaluation		
			develop a history in order to trend future growth.
2.	Is the performance data gathered in accordance with the processes to sufficiently allow proper forecasting of system growth for CLECs?	Yes	The Capacity Planning Group collects more than 75 data points every 10 minutes and stores that data for 45 days in an oracle RDBMS. The data are then rolled up to hourly averages for historical views (when the data is aged off after 45 days) and for forecasting (forecasting uses both 10 minute and roll-up data). Forecasting is now being done against actual business functions (from the Key Business Indicators Group) against the CPS utilization forecast and systems upgrades are engaged months before thresholds are realized.
3.	Are capacity planning procedures documented, in place, and executed by Qwest?	Yes	Qwest processes are currently evolving and documentation is constantly updated to meet new business needs. Refer to the IMA System Scalability Process Document and Process Flow.
4.	Are capacity planning processes designed to provide an acceptable level of quality?	Yes	The acceptable level of quality is determined by specific pass/fail criteria given to the Load and Performance Team.
5.	Is there an established process for the development of capacity planning functions and procedures and its use in performing scalability?	Yes	Reference to this is located in the IMA Scalability Process Document.
6.	Is there an established process for budgeting funds and resources in the support of capacity planning?	Yes	The CIS-Capacity Planning and Provisioning Organization is responsible for forecasting the annual budget and need for additional resources and receive their input with regard to wholesale systems from the IT department. This department is responsible for monitoring

	Scalability Evaluation		
			the capacity and utilization of their systems.
7.	Is scalability monitoring and planning accounted for in capacity planning and are procedures and processes in place to support scalability?	Yes	Qwest has a process in place to determine what must be done to increase capacity in the case of unforeseen volume and the length of time that is required in order to provide this additional capacity. In addition to forecasting in order to plan for capacity expansions, Qwest monitors actual utilization as compared to that which is forecasted in order to determine as early as possible if forecasted volumes are insufficient to meet actual demand. Performance levels are also monitored to make certain performance does not deteriorate given increased demand. The above processes and procedures for supporting scalability are contained within Qwest's IMA System Scalability Process Document.
8.	Is systems growth actively monitored and needs analysis performed?	Yes	The Midrange Capacity Planning performance design group collects data (10 minute intervals) for over 1400 midrange servers. This data is utilized to monitor system loads to detect the point at which a relief project must be implemented in order to be operational prior to exhaust of capacity given current forecasted growth. This process is contained within the IMA system Scalability Process Document.
9.	Is performance monitoring software installed and used at all site locations?	Yes	HP's ITO Measureware Perfview (system name for Performance View) and Glance (Glance Plus Pack) software is used at each site

	Scalability Evaluation		
			location to monitor performance.
10.	Is systems performance monitored at acceptable levels?	Yes	The IT group within Qwest is responsible for monitoring the critical components of each system (eg., CPU, disk utilization) for performance and notifying CIS-Capacity Planning & Provisioning when such performance drops to a level requiring the need for reinforcement.
11.	Are systems databases accounted for in the capacity planning process?	Yes	The database community uses multiple diagnostic tools and is standardized on BMC's patrol for performance monitoring. This is documented and available in Qwest's IMA System Scalability Process Document.
12.	Is capacity planning methodology documentation updated and maintained and is it available to the staff to support the capacity planning process?	Yes	Qwest maintains the CIS Capacity Planning and Provisioning web site which deals with capacity planning and systems monitoring. All documentation concerning capacity planning is placed on this internal web site and updated on a regular basis. In addition, the TPSP web site also maintains technical, policy, standards and process documentation and is available to all staff responsible for the support of capacity planning.

4.2.4 Results

The System Scalability review evaluated Qwest's processes, procedures and planning tools currently in place to adequately monitor Qwest's OSS to scale for anticipated larger workloads. The evaluation included the review of Qwest's procedures for capacity expansion to determine if adequate procedures are in place for scaling Qwest's systems to provide sufficient capacity to handle future CLEC loads. This review also evaluates the backup plans, disaster recovery plans, and other procedures that guide Qwest's staff in executing the OSS interface capacity planning.

In order to adequately evaluate Qwest's ability to scale its operation, CGE&Y obtained Qwest's procedures for tracking OSS loads and capacities, forecasting future OSS loads and providing OSS computer growth in an effort to understand system architecture and gain knowledge of the capacity adjustment procedures used within Qwest. This information is necessary in order for CGE&Y to assess whether Qwest's OSS interfaces can be made scalable to accommodate increases in CLEC volumes greater than those planned for in the Capacity Test within a timely manner.

CGE&Y's analysis of Qwest's processes, procedures and planning tools to support its systems scalability produced the following results:

- Procedures for tracking OSS loads and capacities are in place, actively being utilized and sufficient to detect unexpected increases in volume in order to react appropriately.
- Procedures for forecasting future OSS loads are similar to procedures observed in other jurisdictions for planning purposes and are adequately maintained and followed by Qwest's systems staff.
- Processes are in place and actively followed for managing and providing the necessary CPU, memory and data storage requirements for Qwest's OSS computer growth.
- Qwest has adequate procedures in place to facilitate its staff in executing OSS interface capacity planning.

In light of the above findings, CGE&Y's conclusion is that Qwest has adequate processes and procedures in place that are well documented to maintain system capacity sufficient to meet the required performance levels that have been established in order to provide a meaningful opportunity for an efficient CLEC to compete.

4.3 Staff Scalability

4.3.1 Introduction

The Staff Scalability review involved determining whether processes were in place for Qwest to provide continued support to the CLECs for extraordinary events such as disaster or increased CLEC volumes. CGE&Y reviewed Qwest provided documentation and interviewed Qwest staff personnel for this review.

In addition to disaster recovery, Qwest pre-order and order activities depend in many cases on manual processes to adequately meet their CLEC customer's demand. CGE&Y performed a Staff Scalability review to determine if Qwest has the ability to increase the number of personnel available to perform these manual functions in a timely manner. The review includes evaluation of the following:

- Procedural framework that Qwest has in place to develop force models for its CLEC support centers (Qwest's support center workforce development modeling procedures)
- Linkages between Qwest's future volume projections and Qwest's workforce development modeling procedures
- Volume contingency plans that Qwest has in place to meet dramatic increases in CLEC order volume
- Disaster recovery plans that Qwest has in place to assure continued operations and
- Scalability of recruiting and training programs that Qwest has in place to provide for the availability of staff with the necessary skills to adequately perform the manual support functions

To support future workloads, the amount of Qwest staff needed to provide for the level of CLEC service agreed upon, as reflected in the Service Level Agreements (SLAs) and Performance Indicator Definitions (see Appendix B of the MTP), must be appropriately planned. The Staff Scalability review does not directly determine that Qwest currently employs the appropriate amount of staff, as it is not feasible to train and hire staff at this point in time. However, the planning process to add additional staff as the need is identified, in terms of the number of additional staff, the facilities in which to house the staff, and the required training, are assessed through this evaluation.

The Staff Scalability review includes:

- ❑ Review of Qwest provided documentation to gain an understanding of the processes and procedures in place to detect the need to reinforce existing staff to keep pace with CLEC demand. See Appendix M for a list of documentation that was reviewed as part of this evaluation.

- ❑ Structured discussions between CGE&Y and Qwest SMEs to gain clarification on sections of the received documentation and in general, to gain knowledge of the practical procedures used by Qwest to supplement its staff
- ❑ Assessment of the support centers' ability to respond to increased workload and provide satisfactory resources to complete the manual intervention of non-flow-through LSRs
- ❑ Examination of the support centers' workforce modeling procedures and baseline assumptions used to create the resource capacity requirements
- ❑ An analysis to evaluate the scalability of staffing, workstation capacity, training, forecasting, and responsiveness

4.3.2 Scope

CGE&Y performed a staff scalability review to determine if Qwest has the ability to increase the number of personnel available to meet unexpected demand. This review included evaluation of the following:

- Procedural framework that Qwest has in place to develop force models for its CLEC support centers
- Volume contingency plans that Qwest has in place to meet dramatic increases in CLEC order volume
- Disaster recovery plans that Qwest has in place to assure continued operations
- Scalability of recruiting and training programs that Qwest has in place to provide for the availability of staff with the necessary skills to adequately perform the manual support functions

4.3.3 Process

CGE&Y met with Qwest to review existing processes in relationship to staff scalability. The interviews were conducted at the Qwest offices in Denver, Colorado. Much of the discussion centered on the documents/processes that had been provided in advance of the interview process. Those documents were:

- A. Qwest Disaster Recovery Process
- B. Wholesale Markets ISC Business Continuity Plan
- C. Wholesale CLEC Forecast/Projections

To support future workloads, the amount of Qwest staff needed to provide for the level of CLEC service agreed upon, as reflected in the PID (see Appendix B of the MTP 4.2), must be appropriately planned. The results of the Staff Scalability review do not directly determine that Qwest currently employs the appropriate amount of staff, as it is not feasible to train and hire staff at this point in time to perform future work that may or may not materialize. However,

the staff planning process, in terms of the number of staff, the facilities in which to house the staff, and the required training, are assessed through this evaluation.

CGE&Y reviewed Qwest's documentation, listed above, pertaining to staff scalability and conducted interviews with Qwest SMEs. These discussions were used to gain clarification on sections of the received documentation and to gain knowledge of the practical procedures used. As part of the evaluation, CGE&Y assessed the support centers' ability to respond to increased workload in a timely manner and provide sufficient resources to complete the manual intervention of non-flow-through LSRs. In addition, an examination of the support centers' workforce modeling procedures was conducted to determine if the baseline assumptions used to create the resource capacity requirements were sufficient. CGE&Y also performed an analysis to evaluate Qwest's ability to increase staffing and workstation capacity and to provide adequate training. The adequacy of Qwest's forecasting, in order to react in sufficient time to provide the necessary personnel to handle the increased volume, was also evaluated.

Test Results and Analysis

The Staff Scalability review is to provide answers to certain questions detailed in Section 5.4.3 of the TSD 2.10. Table 4.3.3a describes these questions, which were used during the interview process, along with the responses to those questions. Review of Qwest provided documentation along with information gathered during the interview process were the basis for CGE&Y's findings contained within the Results section below. In addition, Qwest provided CGE&Y access to internal websites that provided information to augment the documentation and the interviews. Where feasible, CGE&Y made observations to ensure Qwest's current operations were capable to implement the scalability procedures described within the documentation.

Table 4.3.3a Staff Scalability Questionnaire

	Staff Planning and Support	Satisfied	Comments
1.	Is there a process in place to temporarily increase staff for large-scale projects outside of the normal workflow environment?	Yes	Qwest is capable of outsourcing to a vendor currently under contract, which operates out of Dallas, Texas and Sierra Vista, Arizona for either a short or long duration. During interviews, Qwest stated its satisfaction with its vendor's ability to provide staff support possessing a satisfactory level of competency in the telecommunications industry. Removing training issues and improving response times associated with hiring new staff to support short term peaks in volume enhances the value to Qwest.
2.	Is there a plan in place to train not	Yes	Qwest can provide center support

	Staff Planning and Support	Satisfied	Comments
	only the staff but emergency overflow staff as well? Are estimated personnel orientation and training times reasonable and do they support the requirements for rapid change in the event of unexpected CLEC volume increases?		through multiple channels to cover high increases in volume of a short duration. This is achieved through support from non-affected centers and the outsourcing reflected previously with the vendor located in Dallas and Sierra Vista.
3.	Is there a risk management plan in place that addresses how to handle the loss of key personnel and to cover contingencies for required personnel increases in support of unexpected CLEC growth?	Yes	This is reflected in Qwest's Disaster Recovery Process and in the event of unexpected growth each center can be supported from the balance of centers with outsourcing to provide temporary coverage. Qwest also maintains insurance coverage on key management personnel in order to provide for timely replacement.
4.	Is the number and timing of shifts for each working day consistent and adequate for the workload?	Yes	Qwest determines this through monitoring and maintaining histories of the work load in order to properly plan for and schedule the number of personnel required to cover the forecasted work load in a timely fashion. Qwest balances the workload through workload management, additional outsource partnering, employee overtime and temporary employees to allow for increases in volumes that occur either suddenly or gradually over time.
5.	Are physical limitations for future and temporary staffing such as office space and equipment addressed in scalability planning?	Yes	When current forecasts reflect exhaust of current office space, Qwest's Real Estate Department, which keeps track of all available office space, is alerted and prepares a plan to convert existing space to handle staff requirements. In the case of temporary staffing, Qwest outsources and has no need for additional office space.
6.	Is training of the staff performed as an ongoing process?	Yes	Qwest maintains an internal training web site, which contains a training path for each job title. Each manager is responsible to ensure employees training profiles are kept up to date and employees are scheduled for additional training as appropriate.
7.	Are all staff job functions and descriptions clearly documented?	Yes	The web site mentioned above also contains a list of all management and non-management positions within Qwest. Included is a job description detailing each position's responsibility and function along with the skills and knowledge required to perform the job.

	Staff Planning and Support	Satisfied	Comments
8.	Is the ISC/AMSC force model procedures and methodology documented and followed by the management and staff?	Yes	This is documented in the Wholesale CLEC Forecast/Projections, which is used to support product planning and network interconnection operations personnel allocation.
	Manual Processes		
1.	Can Qwest scale their workforce to confirm receipt to the CLEC of all paper source documents?	Yes	Personnel are assigned in each center to address this work function and performance measurements exist to evaluate Qwest's responsiveness.
2.	Can Qwest scale their workforce to provide sufficient personnel for collecting and distributing CLEC faxes?	Yes	Specific personnel in each work center are assigned this particular task and their performance is rated by the timeliness in which these faxes are distributed to the appropriate personnel in order for Qwest to provide a timely response.
3.	Is Qwest capable of scaling their workforce to manage and handle fall-out exception processing.	Yes	This is done through normal office requirements with volume contingencies covered through supporting centers and outsourcing.
4.	Is Qwest capable of scaling their workforce to provide adequate staff to support call center CLEC information requirements?	Yes	There was no evidence provided that Qwest monitors call center response times for CLEC support functions in order to determine whether adequate staffing exists to handle calls in a timely fashion and handle CLEC information requirements. This was documented in AZIWO1194. In response to this IWO, CGE&Y received and verified supporting documentation from Qwest. The IWO was closed.
5.	Is Qwest capable of scaling their workforce to provide sufficient personnel for performing data entry through the CLEC access system for manual orders?	Yes	Qwest personnel do not use the CLEC assess system to input manual orders but inputs these orders the same as they would any retail service order. These orders are subjected to the same performance measures as those electronically processed and the time the fax is received is used in determining whether Qwest meets its commitment for processing the order. Qwest actively monitors time delays in the input of these orders and takes appropriate action to increase work force either on a permanent or temporary basis when needed.
6.	Is there an established process in place for forecasting expected growth of CLEC business and unexpected growth?	Yes	Qwest maintains a mechanized forecasting process which is used to assist Qwest with determining personnel requirements. This allows

	Staff Planning and Support	Satisfied	Comments
			the ISC to determine in advance, a reasonable expectation of future staffing requirements. This process is documented in the Wholesale CLEC Forecasting/Projections. Unexpected growth is identified early in the process through comparing existing volume with forecasted volume.
7.	Is there an established process in place for reviewing workload forecasts to determine their validity and accuracy?	Yes	Processes are in place to provide comparisons of current workloads to projected workloads. Documentation is in place and contained in the Wholesale CLEC Forecasting/Projections. According to this documentation, Qwest determines the number of employees required to complete certain tasks and then maintains a forecast for expected level of activity. This forecast determines the number of employees required to cover the expected work load. Once the forecast is prepared, current volume is compared to the forecast and adjustments to personnel are determined based on this comparison.

4.3.4 Results

As part of the Staff Scalability review, CGE&Y assessed Qwest's staff planning process, in terms of the number of staff, the facilities in which to house the staff and the training necessary to bring new personnel up to the required level of productivity.

In conducting its evaluation, CGE&Y reviewed Qwest's support center workforce development modeling procedures and the link between future volume projections and workforce modeling procedures. Support centers were evaluated for their ability to respond to increased workloads and to provide adequate resources to handle the manual processing of non-flow-through LSRs. Contingency plans to meet unforeseen increases in order volume, and Qwest's disaster recovery plans to assure continued CLEC support, were also evaluated. The ability of Qwest's recruiting and training programs to provide staff with the necessary skills to perform the manual support functions was also reviewed by CGE&Y.

CGE&Y's evaluation of Qwest's ability to increase personnel in order to process CLEC orders produced the following results:

- ❑ Sufficient CLEC support centers workforce development modeling procedure documentation is available.
- ❑ In-place volume contingency plans to meet dramatic increases in CLEC order volumes through either re-routing work to supporting ISC offices or outsource to a vendor are documented and available to Qwest staff and are sufficient to cover the daily work load.
- ❑ Disaster recovery plans are well defined to assure continued operations are in place and maintained.
- ❑ Recruiting and training programs to provide for the availability of competent staff with the necessary skills to adequately process CLEC orders are sufficiently documented.

Based on the above findings, CGE&Y concludes that Qwest maintains adequate forecasting procedures to identify the need for additional work force within a sufficient time frame that allows for appropriate training and placement.

5. Relationship Management Evaluation

As part of the certification of Qwest to provide non-discriminatory access to its OSS, CGE&Y was engaged to conduct a Relationship Management Evaluation.

The purpose of the Relationship Management Evaluation was to evaluate how Qwest manages its relationship with the CLECs. This included all facets of Qwest's business processes, procedures, communications and communications methods that involve interaction with, or were created for the use of, the CLEC community.

Approach

The Relationship Management Evaluation was structured to adhere to Section 7.2 of the Master Test Plan, Version 4.2 dated June 29, 2001 (MTP 4.2), and Section 6.1 of the Test Standards Document, Version 2.10, dated September 6, 2001 (TSD 2.10). This report evaluates Qwest's business relationship with the CLEC community in five functional areas: CLEC Account Establishment, CLEC Account Management, CLEC Training, Interface Development, and Co-provider Industry Change Management Process (CICMP).

Each of these functional areas was evaluated using the following methods and tools:

- ❑ **Questionnaires:** CGE&Y sent questionnaires electronically to CLECs that conduct business or intend to conduct business in the state of Arizona. CLECs were encouraged to participate in the survey; however, the completion of all questionnaires was strictly voluntary. The surveys were not intended as any kind of statistical tool, and therefore did not follow any established development methodology. They were intended solely to collect information about the experiences of the CLECs in dealing with Qwest. As such, they took the place of in-person interviews in instances where in-person or telephone interviews were either impractical or impossible.
- ❑ **Interviews:** CGE&Y conducted in-person interviews with Qwest personnel representing the CLEC account establishment, account management, EDI/IMA interface development, and the CICMP processes. CGE&Y also attended a meeting of the CLEC Forum, a group of representatives of the CLECs that participate in the CICMP, which afforded the opportunity to interview those present regarding CICMP and other matters. CGE&Y also conducted telephone interviews with participating CLEC personnel involved in contract management, systems and process change management, and interface development and testing activities with Qwest. Informal interviews were conducted with certain CLECs throughout the duration of the evaluation.
- ❑ **Documentation Review:** Documentation relating to each of the evaluated areas was extensively reviewed and is summarized in the appropriate sections of this report. Documentation for the evaluation was obtained from all available sources, including the Qwest website, the Pseudo-CLEC through its account management team, Qwest's

technical publications source, and through the information request process established for this 271 proceeding.

- ❑ **Observation:** CGE&Y observed many of the processes discussed in this evaluation. These observations were primarily accomplished by the monitoring of Qwest's interactions with the Pseudo-CLEC. CGE&Y also made observations during its participation in CICMP meetings and focus discussions, participation in Qwest's Release Notification process, attendance at various Qwest wholesale training classes, and through meeting with Qwest personnel involved in the various processes.

The following is a brief description of the five evaluation areas:

1) CLEC Account Establishment

The CLEC account establishment evaluation consisted of review of the entire process by which a CLEC becomes certified to do business in Qwest territory, interconnects its network with Qwest's, if applicable, and establishes systems and processes to order various Qwest products. The evaluation examined:

- Methods and procedures established by Qwest for a CLEC to become a Qwest wholesale customer
- Documentation regarding CLEC account establishment accessible to CLECs via web, hard copy, public documents obtainable through the state commission, etc.
- The Qwest CLEC account management organization, including its processes, procedures, and personnel
- The CLECs' experiences with the account management organization

2) CLEC Account Management

The CLEC account management evaluation included an examination of the methods, procedures and actions of Qwest in managing its business relationships with the CLECs. The evaluation considered the following functions and processes:

- Qwest account team responses to CLEC queries, problems, issues, etc.
- Help desk call processing, procedures, and business rules involved with the closing of CLEC trouble tickets
- Problem escalation
- Forecasting, including Local Interconnection Service (LIS) trunks, UNE, and collocation facilities
- Ongoing communications between Qwest and the CLECs

3) CLEC Training

The CLEC training evaluation assessed the adequacy of the Qwest wholesale training effort. The evaluators considered the following:

- The availability of training (i.e., frequency and geographic location)
- Curriculum offered to CLECs
- Content and structure of available training
- Quality of available training
- Effectiveness of the training as assessed by the participants

4) Interface Development

The interface development evaluation assessed the processes, procedures, documentation, and consultative assistance that Qwest makes available to CLECs while developing and implementing their interfaces. It also evaluated the methods by which cooperative certification testing takes place between the CLEC and Qwest, as well as the platforms/environments involved in the testing. The specific systems encompassed by this evaluation were:

- IMA – EDI
- IMA – Graphical User Interface (GUI)
- Electronic Bonding – Trouble Administration (EB-TA)
- Wholesale Billing Interfaces

Since development methods for both IMA-EDI and EB-TA systems are substantially similar, they were both covered in the same questionnaires and interview questions.

The interface development evaluation also assessed a CLEC's ability to integrate pre-order data elements into order transactions.

5) Co-Provider Industry Change Management Process

The CICMP evaluation assessed Qwest's methodology for identifying, clarifying, prioritizing, scheduling, implementing and communicating changes to its pre-order, order, trouble administration, and billing systems interfaces and associated business processes requested by the CLEC community. These systems include:

- IMA-EDI
- IMA-GUI
- EB- TA
- CLEC billing interfaces
- Held, Escalated, and Expedited Tool (HEET)
- Customer Terminal Access System (CTAS)
- Telecommunications Information System (TELIS)

The issues evaluated in the CICMP assessment included:

- The overall documentation of the CICMP process, including roles, responsibilities, and instructions for completing a change request (CR) form

- The process for, and timeliness of, notifications of upcoming system upgrades, “point releases,” etc. These are called “Release Notifications” in the CICMP process.
- The timeliness and content of release notes for upcoming releases
- Communications between Qwest and the CLECs for resolving problems that arise in relation to system upgrades
- The existence of test environments, documentation, and other tools necessary to prepare and test changes before they are implemented
- The process for, and timeliness and effectiveness of, Qwest’s notifications of planned and unplanned system down times
- The soundness and effectiveness of these processes

In late June 2001 Qwest began a comprehensive redesign of every component of its change management process, whose name was officially changed to the Change Management Process (CMP). This redesign process was a collaborative effort between Qwest and CLECs named to the redesign “core team,” and used OBF issue 2233 as its basis.

5.1 CLEC Account Establishment

The CLEC account establishment evaluation consisted of review of the process by which a CLEC becomes certified to do business in Qwest territory, interconnects its network with Qwest’s, if applicable, and establishes systems and processes to order various Qwest products. Per the MTP Section 7.2 and the TSD Section 6.1, the evaluation examined:

- Methods and procedures established by Qwest for a CLEC to become a Qwest wholesale customer
- Documentation regarding CLEC account establishment accessible to CLECs via web, hard copy, public documents obtainable through the state commission, etc.
- The Qwest CLEC account management organization, including its processes, procedures, and personnel
- The CLECs’ experiences with the account management organization

In order for CGE&Y to arrive at conclusions about the above topics, its first task was to send questionnaires⁴⁹ to CLECs with customers in Arizona or that intended to establish service there. These questionnaires asked the CLECs to relate their experiences in dealing with Qwest throughout all phases of the account establishment process, using questions set forth in CGE&Y’s TSD.

CGE&Y then conducted formal interviews⁵⁰ with personnel from Qwest representing each of the functional areas involved in the process. These interviews were conducted on the basis of questions and objectives outlined in CGE&Y’s TSD. Additionally, informal interviews were conducted with the CLECs throughout the evaluation process.

⁴⁹ CGE&Y Archive File: RME #1 – CLEC Account Establishment Questionnaires

⁵⁰ CGE&Y Archive File: RME #2 – Qwest Personnel Interviews

Finally, CGE&Y undertook a comprehensive review of all documentation available to CLECs regarding the account establishment process. This documentation was obtained from Qwest's wholesale website,⁵¹ from the Pseudo-CLEC (HPC 12-Step CLEC Process Report), and ordered through Qwest's technical publications vendor (technical publications were later available from the Qwest wholesale website). The documentation was evaluated for the following:

- Organization
- Availability
- Accuracy
- Clarity
- Completeness
- Usefulness

5.1.1 Questionnaires

Questionnaires regarding the Qwest account establishment process were sent to all of the CLECs that participate in the Qwest CLEC Forum, and those that actively participate in the Arizona 271 Test Advisory Group (TAG), including the Pseudo-CLEC. Formal responses were received from only seven CLECs, although informal responses were received via telephone calls and e-mails throughout the evaluation process. Most respondents could only give general answers to the questions posed in the questionnaires due to the length of time that had elapsed since they had completed their account establishment process.

Questionnaire responses generally agreed with the results of the overall evaluation. Specifically, participants felt that the process, as it has evolved, is generally good. They felt that the initial negotiation process is a bit cumbersome at times, and that the associated documentation did not always provide the answers that they are looking for. However, all respondents were in general agreement that the account management staff, while at times overworked, is competent and generally seems to be an advocate for the CLECs.

The relevant points highlighted by the questionnaires are summarized below:

- The smaller CLECs that “opted into” existing interconnection agreements found the process to be relatively easy compared with negotiating their own agreements.
- The larger CLECs that negotiated their own interconnection agreements from scratch, “paving the way,” so to speak, for the smaller CLECs agreed that the process was long and painful. One medium-size CLEC that attempted to negotiate its own agreement was stymied in its effort and ended up opting into an existing agreement just to get into the market.
- All respondents found numerous problems with Qwest's wholesale website. They pointed out problems related to missing information, inconsistent and conflicting information, and difficulty navigating the site.

⁵¹ <http://www.qwest.com/wholesale/pcat/interconnection.html> and <http://www.qwest.com/wholesale/pcat/resale.html>

5.1.2 Interviews

CGE&Y conducted interviews with Qwest personnel responsible for the CLEC account establishment process. The interviews covered the following functions:

- Interconnection agreement negotiation
- Account management assignment
- Network interconnection

Interconnection Agreement Negotiation

Qwest personnel presented an overview of the process by which a CLEC initially contacts Qwest and negotiates an interconnection agreement. Options available to CLECs when negotiating an interconnection agreement are:

- a) Negotiating an agreement from scratch
- b) “Opting Into” an already approved interconnection agreement between Qwest and another CLEC
- c) Using Qwest’s Statement of Generally Acceptable Terms (SGAT) as a “model” or template for an interconnection agreement

They indicated that approximately 80 percent of CLECs opt into an agreement rather than pursuing the other two options.

CLECs can begin many processes, including the interconnection negotiation process, before state certification is complete. While it is clearly stated on the Qwest wholesale website that a CLEC must be certified by the state commission before it can provide service, it is not stated that a CLEC can begin the account establishment process before state certification is complete.

Account Management Assignment

CGE&Y interviewed several Qwest account managers:⁵² managers of a large account (WorldCom), medium-size accounts, and small accounts. Additionally, CGE&Y interviewed the individual in charge of the account management function, who is responsible for assigning account managers to accounts. These personnel described the account management assignment process as well as the initial responsibilities of an account manager. Although the processes involved for the management of large CLECs differ somewhat from those of a small CLEC, most processes are substantially the same.

The main points made during the interview were as follows:

- Qwest account managers are selected in part by virtue of their breadth of experience within the Qwest business. All of the account managers CGE&Y interviewed had been with the company at least 10 years.

⁵² CGE&Y Archive File: RME #3 – Qwest Account Manager Interview

- An account manager's workload is dependent on the size of the accounts he/she manages.
- The most important thing the account manager does during the initial meetings is to help the CLEC complete the CLEC customer questionnaire, a copy of which is available on the Qwest wholesale website.
- During the initial account team interview, the account manager will ask the CLEC about its business plan, what business segment it plans to fit into, what types of services it intends to offer and in what geographic areas. The account manager will point the CLEC to the appropriate Qwest wholesale website addresses.
- The account manager will also, at these early meetings, determine billing arrangements, media, etc. At this point, the account manager will connect the CLEC with another Qwest representative to work on billing interfaces.
- During the initial account establishment meetings, CLECs are asked to provide forecasts of order volumes to determine what processing center they'll be assigned to, and to help Qwest determine staffing levels in those centers.
- Large accounts are assigned more than one account manager. The managers assigned to a large account are often divided to handle the different geographical regions in which the CLEC does business.
- The Qwest account managers for large CLECs spend far less time in these initial meetings on things like guiding the CLEC through the questionnaire process, account set-up, etc.

Network Interconnection

One of the most important steps in the account establishment process for facilities-based carriers is the network interconnection process. This primarily consists of completing the collocation application and build-out process; ordering entrance facilities, Interconnect Distribution Frame (ICDF) cables, and other corollary collocation products; and forecasting for interconnection trunks. The Qwest State Interconnection Managers (SICMs) assist the CLEC during this process, and act as an extension of the account management team.

CGE&Y had the opportunity to interview the SICM for Arizona, as well as the overall manager of SICMs.⁵³ The interview brought out the following points:

- SICMs function as an extension of the account management team.
- They specifically handle in-depth technical issues surrounding the physical interconnection of CLEC-Incumbent Local Exchange Carrier (ILEC) facilities.
- They act as the single point-of-contact for CLECs for all issues regarding ILEC Central Office (CO) security, access, badges, and operating procedures

⁵³ CGE&Y Archive File: RME #2 – Qwest State Interconnection Manager Interview

- When a CLEC makes a collocation application and Qwest determines that sufficient floor space in the CO is not available, it is the SICM's job to physically tour the facility to verify the space-exhaust condition before the notification letter is sent to the CLEC.
- When a CLEC receives a space-exhaust notification letter in response to the collocation application and wants to dispute it, the CLEC will coordinate with the SICM if it wants to tour the facility.
- There are currently nine SICMs. Each is responsible for a state or region. Each is resident in the region for which he/she is responsible.
- The average level of engineering and other telecommunications experience of each of the nine SICMs is currently about 30 years.
- SICMs are very actively involved in the product definition process, primarily in helping to determine the technical feasibility of the proposed product.
- Following the introduction of new network products to the CLEC community, the SICMs are the focal point for technical questions from the CLECs regarding the products.

5.1.3 Documentation

CGE&Y conducted a review of all documentation related to account establishment. The primary source of this information was the Qwest wholesale website, where CLECs are directed by Qwest to obtain much of their needed information. Within Qwest's wholesale website, CGE&Y also reviewed the guide containing all product information for prospective CLECs, which is the PCAT. CGE&Y also obtained information from the Pseudo-CLEC, from Qwest's technical publications vendor (technical publications were later available for download directly from Qwest's wholesale website), and through the information request process set up by the Arizona 271 TAG.

CGE&Y examined every document available in the PCAT several times and conducted several overall reviews of the Wholesale website. CGE&Y identified several consistent weaknesses throughout Qwest's documentation and issued several IWOs, which are outlined below. During the course of the evaluation, substantial changes were made to the look, feel, and content of the Qwest website overall, and to the PCAT in particular. As a result of these changes, the IWOs were closed. During subsequent reviews of the PCAT and Wholesale website other issues were uncovered and additional IWOs issued. Once Qwest remediated the problems outlined in the IWOs and CGE&Y verified the corrective actions, these IWOs were likewise closed.

The documentation relating to account establishment initially varied from very good to very inadequate. The main weaknesses encountered were:

- Lack of organization
- Lack of a consistent style
- Out-of-date information

- No recognizable process for review and update of information

During the face-to-face interviews, Qwest personnel indicated that there was no central point of responsibility for the information contained in the PCAT, or any other web content, nor was there any formal change management process for these documents. At the time the Relationship Management Evaluation began, there was a web group that oversaw certain stylistic matters. Likewise, Qwest's legal department reviewed certain content to make sure the information was accurate or at least did not violate any regulatory guidelines. Each subject, be it a product, process, etc., was written by its individual business owner and posted to the Wholesale website with little further review. This root cause resulted in all of the effects described in the paragraphs that follow.

The lack of organization mentioned above referred to the manner in which the website was designed, and includes navigability and overall page layout. Many of the pages were not designed in a logical, consistent, or user-friendly manner. The information contained on the pages was not cross-referenced (hyperlinked) in an efficient manner, making the navigation of the pages a hit-or-miss process.

The information also suffered from the lack of a consistent style. This lack of consistent style was most evident in the product descriptions contained within the PCAT. These product descriptions are of utmost importance to a CLEC when deciding which products to offer and how to structure its own internal systems to be able to offer them. Without a single editing authority for all product descriptions, the information wasn't presented in a consistent manner.

For instance, many product descriptions have consistent headings (e.g., Basic Product Features, Pricing, Installation Intervals) while many do not. Descriptions of some very technical products (e.g., Resale Centrex) contain only basic information, while other relatively simple products (e.g., Resale Residential Exchange Service) are described in great detail.

Some of the information contained in the PCAT and the rest of the Wholesale website, particularly pages containing "perishable" information, such as those containing contact names and telephone numbers, appeared to be out of date. When CGE&Y first began reviewing this documentation, almost every page had the date the information was last reviewed. In many cases, that date was more than two years old. In almost no case, except for the descriptions of some newer products, was the review date any more recent than February of 1999.

During the summer of 2000, after CGE&Y began its evaluation, Qwest completely redesigned its website. The look of the information after the redesign was completely different. Re-examination of the information, however, revealed that the content of the pages had not changed at all. Textual editing was evident on some pages, and the format had been changed throughout. The actual content, however, was the same except that Qwest had

now simply removed all review dates from the pages. This made it impossible to determine whether the information had been reviewed or not.

During its interview with Qwest's CLEC account management personnel, CGE&Y asked if there was a consistent process by which information contained on the wholesale website, and particularly in the PCAT, was reviewed and updated. This was asked as a follow-up to the question already mentioned above about the existence of a central editing authority for web information. Qwest responded that each content owner was responsible for updating his or her own information when it changed and that there was no written policy on the matter.

Qwest undertook yet another comprehensive update of its wholesale website during the evaluation period, releasing it to customers at the end of January 2001. As with previous updates to the website, the changes were largely concentrated in the user interface and the overall organization of the site.

However, there was a great deal of new content added. A large number of new documents were added, and some new content and cross-references were added to existing documents. It must be noted, however, that although new portions were *added* to existing documents, the existing information contained therein was not altered. As a result, the majority of the discrepancies found in the documents remained.

Beginning in February 2001, Qwest formed an internal group specifically responsible for the content and quality of the Qwest wholesale website. Beginning in March 2001, Qwest began yet another review of its wholesale website and this time made substantial changes to its content. The results of the formation of this new internal group and its review of the Wholesale website were evident to the end-user. The website began to take on a much more unified look, most of the outdated content was removed, and the majority of the existing content was updated and expanded.

As Qwest improved the quality of its Wholesale website, the company was apparently trying to accommodate content from Qwest's former data-related business. As a result, traditional wholesale products from Qwest's former wholesale business were being mixed with interconnection products from its ILEC wholesale business. While it makes sense to have all wholesale products on the same website, the inclusion of all wholesale products listed under the heading "Interconnection" was confusing.

Between March and November 2001, Qwest made several more refinements to its website. The site is much easier to navigate now, and new and updated information is added to the site regularly. The most helpful improvement made by Qwest during this period was thorough hyperlinking added throughout the site, so that the reader can easily navigate to needed documents without having

to search for them. In mid-October 2001, the non-Interconnect products that had previously been listed along with the Interconnect products were removed from the Interconnect products list. All remaining out-dated product descriptions were updated.

On a going-forward basis, much of the content of the PCAT and other areas of the Wholesale website will fall under the aegis of Qwest's CMP. Under this arrangement, Qwest must submit proposed changes to agreed upon content types and allow CLECs to provide comments on these changes. Currently, an issue is being negotiated whereby CLECs would have an avenue to block the introduction of a new product or change to an existing product pending the determination of a state commission or third party arbitrator.

The following table lists all IWOs related to Qwest's CLEC account establishment or product documentation issued by CGE&Y or the Pseudo-CLEC during the Arizona 271 OSS Test.

IWO #	Description	Resolution	Status
1064	<p>The Wholesale website details a 5-step process for Facility-based CLECs and a 12-step process for resellers. The following findings were made regarding this process.</p> <ul style="list-style-type: none"> Most of the steps in the Reseller process are also applicable to facility-based CLECs. These steps for facilities-based carriers are either omitted, or several steps are combined into a single step. The collateral CGE&Y received directly from the account managers contained the same essential information as that available on the internet, but in a much more easy-to-understand format. The information contained on the website should be modified to match the collateral so that it would be easier to follow. The information could then be downloaded and printed off the internet and it would no longer be necessary for Qwest to provide it in the new format at meetings with CLECs. Step #3 of the Reseller process reads, in part, "...Additional facilities would have been 	<p>Qwest Wholesale Marketing Communications updated the "Getting Started" URL (http://www.qwest.com/wholesale/clecs/index.html) section of the Wholesale Markets web page to arrange the section into a more easy to understand format.</p>	Closed

IWO #	Description	Resolution	Status
	<p>determined as you and your account manager completed the New Customer Questionnaire...” None of the previous steps, however, detail how to go about requesting or receiving an account manager from Qwest.</p> <ul style="list-style-type: none"> Existing Step #12 should be made Step #11, and Step #11 moved down the list to #12. 		
1086	<p>Various minor discrepancies were noted in reviewing the Resale and Interconnection Product Descriptions (PDs) available to CLECs on the Qwest Wholesale website.</p> <p>General Comments:</p> <p>The Qwest Wholesale website appeared to be in the process of merging documents from Qwest’s former wholesale business with the interconnect (CLEC) products of the former U S WEST. While it was understood that this site may have been a “work in progress,” it was somewhat confusing. Specifically, a facilities-based CLEC looking for Interconnect (i.e. unbundled) products on this site clicks on a link called “Interconnection” under a menu titled “Products & Services.” Once there, however, the list of products contained a mixture of true Interconnection products and regular wholesale products, such as Qwest sold before its merger with U S WEST.</p> <p>The PDs themselves were inconsistent in their style and content. For instance, many of them contained similar subheadings for content such as “How This Product Works,” “How To Order This Product,” and “Pricing.” Many, however, had some but not all of these, some had many more additional ones, and some had none at all. Also, the majority of PDs had a consistent hypertext navigation frame on the left side of each page to ease navigation between different PDs in the series. Quite a few of the newer PDs, however, did not contain this</p>	<p>Qwest reviewed the findings in AZIWO1086 and concurred that the website was a “work in progress.” In order to address the concerns raised, Qwest implemented several changes to the means by which it shall review and communicate information necessary for CLECs to conduct business with Qwest.</p> <p>At the time the observation was issued, the Qwest Wholesale website was undergoing significant changes as a result of the U S WEST and Qwest merger. All documentation and format changes were not in place as of the specified date contained within the observation.</p> <p>Since the time of the observation issuance Qwest has updated the PCAT to ensure the most current information is contained and/or to identify for the reader if a page or content information is in the process of changing. Qwest has undertaken a separate internal audit of the PCAT to ensure necessary changes, as per the discrepancies noted in this observation and as a result of Qwest’s own internal audit, have been made or will be made on or before April 10, 2001.</p>	Closed

IWO #	Description	Resolution	Status
	<p>frame, and instead had a smaller navigation frame for navigation within the document itself. Finally, many documents contained a "Date Last Updated" entry while many did not. For those that had such a date, many had not been changed in more than a year. (A list of representative documents was attached to this IWO).</p>	<p>CGE&Y verified that the changes were made.</p> <p>Qwest will reinforce process work and focus on content quality, content delivery and content accessibility via the qwest.com/wholesale website.</p> <p>CGE&Y has observed that Qwest has applied quality and content improvements to the wholesale website.</p> <p>A process control tool is being designed that will identify quality control issues related to site maintenance. When site management parameters for any given URL are outside normal limits, Qwest Wholesale will have the tool to automatically identify the location of concern and assess a remedy. As an example, site maintenance issues would include broken links, page download durations and old page identifiers (this would be pages that have not been update in a specified period of weeks/months).</p>	
1065	<p>The Wholesale website contained a process for the CLEC to follow and the form for the CLEC to submit when requesting new services (the New Services Request Application).</p> <p><u>Exceptions:</u></p> <ul style="list-style-type: none"> The documentation stated, "Specific requirements and timeframes for evaluating your request are based on applicable legal or regulatory requirements, and will be identified upon receipt of the completed request application form." The documentation did not, however, state a timeframe during which 	<p>Outlined below are revisions to the Qwest IRRG now referred to as the Product Catalogue or Wholesale website. Qwest believes these changes should minimize confusion regarding various Service Request options available to Wholesale customers and should answer the questions raised by this IWO.</p> <ul style="list-style-type: none"> The existing section called ONA New Service Request Form was removed. The existing sections 	Closed

IWO #	Description	Resolution	Status
	<p>Qwest would inform the CLEC of receipt of the application nor who would be contacting the CLEC.</p> <ul style="list-style-type: none"> The website contained three separate processes for making a request for new products and services The Special Request (SR) Process/New Services Request Application The Bona Fide Request (BFR) Process/New Services Request Application The Open Network Architecture (ONA) New Services Request Application It was not clear which of the three processes above a CLEC should use for their request. The stated purposes for the three, respectively, were: <ul style="list-style-type: none"> SR Process: "...to receive and analyze requests from co-providers for new local interconnection and/or unbundled network elements that <i>do not require a technical feasibility analysis.</i>" (Italics added) BFR Process: "...to receive and analyze requests from wholesale local markets customers for new local interconnection and/or unbundled network elements." ONA Process: "...to evaluate your request for interconnection or access to unbundled network elements." From the above, it could be deduced that a CLEC was to use the SR process for requests that did not require a technical feasibility analysis, and the BFR process for those that did. However, the verbiage about the technical feasibility was only contained in the SR process description and not in the BFR description. The SR process, in fact, stated clearly that a CLEC must use the BFR process for requests requiring technical analysis and even provided a link to the BFR page. The BFR page. 	<p>under Pre-Ordering Information called Bona Fide Request (BFR) Process and Special Request (SR) Process were re-written to be easier to understand when accessed by CLECs</p> <ul style="list-style-type: none"> One category, called New Request Processes, is now shown under the Pre-Ordering Information section. An introductory section under that category identifies and explains the two options (BFR and SR) available to co-providers under New Request Processes; and gives examples of when to use each option. Language informs the co-provider how to submit the request, and clarifies who will contact the co-provider after Qwest has received the request. Application forms for each process are available for download from the New Request Process section. Links to URLs for Interconnection Agreement and SGAT templates are offered, so potential co-providers can easily see additional details regarding each process. However, it is clearly stated that timeframes (or other conditions) in existing, approved agreements may vary by state, and that CLECs may wish to review their contract prior to submitting a request. 	

IWO #	Description	Resolution	Status
	<p>on the other hand, said nothing at all about the other two processes and nothing about it being only for those requests requiring technical analysis.</p> <ul style="list-style-type: none"> The third process, the ONA New Service Request Process, gave no indication whatsoever of its relation, if any, to the other two processes. In fact there was no indication, apart from the text quoted above, describing what this request was even used for. <p>The SR Process included timeframes for responding to the request; the other two, however, did not.</p>	<p>These changes were in place by February 28, 2001. A notice advising of this new information was sent to each CLEC.</p>	
1131	<p>Qwest provided the Pseudo-CLEC some documents that were not complete, or usable from the web page.</p>	<p>These issues were presented to the Qwest account manager through the normal CLEC process, and were resolved by March 24, 2000.</p>	Closed
1135	<p>The section of the Qwest wholesale website containing instructions on business procedures for Interconnect (i.e. CLEC) customers contains a page called "Manual Interfaces." This page can be found at the following URL: http://www.qwest.com/wholesale/clec/manualinterfaces.html</p> <p>The intent of this IWO was to bring to Qwest's attention some inaccuracies contained within this document. These are summarized as follows:</p> <ul style="list-style-type: none"> Although the document was titled "Manual Interfaces," the document actually referred to both manual forms (e.g., LSR, End User, etc.) <u>and</u> mechanized interfaces such as EDI and IMA equally. The information did not appear to have been updated since 1997, while the website itself had been updated repeatedly, as recently as 06/02/01. <p>This document contained a wealth of information very valuable to CLECs that did not intrinsically have anything</p>	<p>Qwest acknowledged that the manual interfaces website contained some information applicable to both manual forms and mechanized interfaces.</p> <p>Qwest addressed the documentation issues raised in this IWO as part of its product documentation update process, including changes to its documentation regarding general Pre-Ordering, Ordering and LSOG forms. New pre-ordering and ordering procedures were posted to the Qwest Wholesale website and available to CLECs on July 27, 2001. The new Qwest specific LSOG documentation, which identifies Qwest specific variances from the current ATIS LSOG 3, was posted to the Qwest Wholesale web site and available to CLECs on August 30, 2001. The information in the revised</p>	Closed

IWO #	Description	Resolution	Status
	to do with “Manual Interfaces.” By putting this information under such a heading, it could have been easily overlooked by a CLEC.	product documentation and the LSOG includes some of the content contained in the manual interfaces URL identified in this IWO. These efforts remedied the documentation issue raised in this IWO.	
1170	<p>The website has undergone several major modifications since AZIWO1086 was closed and, in general, is much better organized, easier to navigate, and contains up-to-date information.</p> <p>The following minor errors were found:</p> <p>Letter of Authorization: When you select the “Proof of Authorization/Letter of Agency (LOA)” option from the “View Business Procedures” drop down located at http://www.qwest.com/wholesale/pcat/interconnection.html or http://www.qwest.com/wholesale/pcat/resale.html, the page that came up was the correct one (http://www.qwest.com/wholesale/preorder/index.html). However, when you select the the “Proof of Authorization/Letter of Agency (LOA)” option from the navigation bar located on the left-hand side of the screen on all of the individual PCATs (product descriptions), the browser attempted to find the page located at http://www.qwest.com/wholesale/preorder/loa.html. There was no page located at this URL and an error message was received. Screen prints were provided.</p>	Qwest has deleted the information on this webpage and replaced it with links guiding CLECs to the relocated, pertinent information. Appropriate notification was sent via a CMP notification to the CLECs by September 28, 2001.	Closed
1176	<p>The following observation was made during CGE&Y’s interview of Qwest’s CLEC Account Management personnel.</p> <p>Qwest’s CLEC Account Managers said that CLECs can begin many processes, <u>including the</u></p>	Qwest has included a statement on the CLEC Checklist indicating that many of the processes outlined can be performed in parallel with one another, and started prior to Certification, including beginning	Closed

IWO #	Description	Resolution	Status
	<u>interconnection negotiation process</u> , before state certification is complete. While it was clearly stated on the Qwest wholesale website that a CLEC must be certified by the state commission before it can provide service, it was not stated that a CLEC can begin the account establishment process before state certification is complete.	interconnection negotiation. Qwest updated CLEC Checklist on the website by September 28, 2001.	
1177	<p>The following observation was made during CGE&Y's review of the Arizona SGAT found at the following web address:</p> <p>http://www.qwest.com/about/policy/sgats/#arizona</p> <p>The section within the SGAT dealing with service performance gave the general categories in which performance is measured and reported, but did not give any detailed information about the specific measures involved (i.e., what kinds of triggers are used within the databases to capture time and date related information).</p>	<p>Qwest has documented PIDs for Arizona and placed links to filed SGATs on the web page for CLEC access. The PIDs explain the performance measures and the filed SGATs can be obtained through the website.</p> <p>Qwest has addressed the issues contained in this IWO and provided clarification on where information can be found.</p>	Closed
1178	<p>The Wholesale website contains a list of Reject Reasons at the following URL:</p> <p>http://www.qwest.com/wholesale/clecs/orderprocess.html</p> <p>The page did not explain if the list is complete, nor did it inform the CLEC what steps to take to rectify the reject.</p>	<p>Qwest has a new General Product Catalogue (PCAT). The first phase of PCAT was released on July 27th, 2001 (the URL is http://www.qwest.com/wholesale/clecs/ordering.html). The General Order and Provisioning sections of the PCATs outline a detailed list of possible reject reasons and informs the CLEC about what steps are necessary to rectify the reject. CLECs should go to the section identified under the heading "Editing Errors and Rejections" for the information cited in this IWO. Notice of changes to the Qwest web site was provided to CLECs in July of this year.</p> <p>Qwest has addressed the</p>	Closed

IWO #	Description	Resolution	Status
		issues contained in this IWO and provided clarification on where information can be found.	
1179	<p>The Service Interval Guide (SIG) did not give any indication of FOC intervals for orders issued through Mediated Access.</p> <p>Further, the SIG made no mention of the ordering method assumed (i.e., manual ordering) when giving Firm Order Confirmation (FOC) intervals, leaving it to the reader to infer it from the material presented.</p>	<p>On August 1st, 2001, Qwest modified the SIG to indicate that the "Firm Order Completion (FOC) interval is based on the assumption that the request is submitted electronically via IMA. An additional 24 hours is added to the interval if the request is submitted via IIS (Faxed).</p> <p>Qwest has addressed the issues contained in this IWO and made the appropriate changes to Service Interval Guide.</p>	Closed
1180	<p>The Wholesate website located at http://www.qwest.com/wholesale/clecs/electronicaccess.html provides instructions for CLECs to follow to gain OSS access and gives connectivity options. The forms required are outlined and provided for the CLEC to submit to the account manager.</p> <p>Exception:</p> <p>Timelines were listed for every connection method</p>	<p>This difference was noted by Qwest and was corrected on 8/28/01. The Dedicated Access and Dial up methods did provide a timeframe for set up/installation, however, the timeframe for Digital Certificate was omitted. This information was added to the Electronic Access website on 8/28/01. Appropriate notification was sent via the CMP to the CLECs on 8/28/01.</p> <p>Qwest has addressed the issues contained in this IWO and made the appropriate updates to the Electronic Access website.</p>	Closed
1196	<p>The following Resale PCATs appeared to be out of date:</p> <p>The PCAT for Resale Voice Messaging Service located at http://www.qwest.com/wholesale/pcat/vms.html, and the PCAT for Central Office – Automatic Call Distribution located at http://www.qwest.com/wholesale/pcat/coacd.html appeared to be out of date. The last review date for these web pages was 06/23/01 and the pages</p>	<p>CGE&Y has verified that all of the problems noted have been fixed on Qwest's wholesale website.</p>	Closed

IWO #	Description	Resolution	Status
	<p>were not in the same format as the other Qwest Resale PCATs.</p> <p>The following Interconnection PCATs appeared to be out of date:</p> <p>The PCAT for Dedicated Internet Access located at http://www.qwest.com/wholesale/pcat/dia.html</p> <p>The PCAT for Domestic ATM located at http://www.qwest.com/wholesale/pcat/datm.html</p> <p>The PCAT for Interim Number Portability located at http://www.qwest.com/wholesale/pcat/inp.html</p> <p>The PCAT for Toll-Free Origination located at http://www.qwest.com/wholesale/pcat/dtfo.html</p> <p>The PCAT for Electronic Directory Assistance located at http://www.qwest.com/wholesale/pcat/qsearch.html</p> <p>The PCAT for DS-1 located at http://www.qwest.com/wholesale/pcat/ds1.html</p> <p>The PCAT for DS-3 located at http://www.qwest.com/wholesale/pcat/ds3.html</p> <p>The PCAT for Private Line located at http://www.qwest.com/wholesale/pcat/privateline.html</p> <p>Most of these Interconnect PCATs appeared to not be Facilities-Based CLEC products at all but rather wholesale products previously offered by the "legacy Qwest" organization. Additionally, there was no explanation provided on the introductory page to Interconnection products http://www.qwest.com/wholesale/bca</p>		

IWO #	Description	Resolution	Status
	t/interconnection.html) as to whether the products listed are for CLECs or general wholesale customers. In fact, the explanation provided on the aforementioned page left the reader with the impression that all the products listed were for CLECs only. As such, it would be confusing for a CLEC to find the above-listed products under the pull-down menu on this page.		

Pseudo-CLEC Experience

The following summary is based upon the final report of the CLEC account establishment process given by High Performance Communications (HPC), the Pseudo-CLEC for the Arizona 271 evaluation, and upon an interview of HPC conducted by CGE&Y in June of 2000. This report was released in its entirety to the Arizona TAG in May 2001. Given that HPC conducted its account establishment activities in late 1999 and early 2000, it is important to note that much of the information and process provided by Qwest at that time has since been updated and improved.

HPC started the interconnection negotiation process on November 19, 1999. Using Qwest's "Model Interconnection Agreement" as a basis, HPC was able to approve and sign its Interconnection Agreement on January 7, 2000. That agreement was later approved by the ACC on March 1, 2000. HPC was assigned its account manager on January 28, 2000 and held its first meeting on February 16, 2001.

While completing the Interconnection Agreement, HPC experienced the following issues:

- It was unclear as to what the first step should be in the CLEC process. The information from one location on Qwest's website indicated that the CLEC should request an account manager who would then assemble a team to assist the CLEC through the interconnection agreement negotiations. In another location it indicated that the CLEC must negotiate an Interconnection Agreement before it would be assigned an account manager. HPC followed the latter for this test.
- During the first negotiation session with Qwest, the negotiation team indicated that HPC should have provided some sort of background information before the negotiation session. HPC, on the other hand, had asked several times if it was required to provide Qwest with any specific

information before the negotiation session. On every occasion, HPC was told that it only needed to review the Model Interconnection Agreement and come prepared with a list of questions.

- HPC tried to fax a signed Confidentiality Agreement to Qwest seventeen times over a five day period because it was given a wrong number for the fax machine at Qwest.

HPC began discussion to establish connectivity between its OSS and Qwest's Operations Support Systems (OSS) on February 23, 2000. This connectivity included dial-up modem access for the IMA-GUI, and dedicated T1 lines for the IMA-GUI and EDI applications. HPC established application-to-application connectivity to the IMA-GUI through the dial-up on April 5, 2000 and through the dedicated T1 Lines on May 4, 2000. HPC acquired four T1 lines from Qwest for use with the EDI, Billing and IMA-GUI application interfaces. HPC experienced several documentation issues with IMA documents used to establish that connectivity. All issues were resolved through the account manager. Information on the EDI interface connectivity is covered separately in the HPC EDI Connectivity Report.

HPC experienced the following issue in regard to establishing connectivity to the IMA-GUI system:

- The SecurID form requests the user's Social Security Number and their mother's maiden name for initializing the card. HPC indicated to its account manager that it does not wish to provide that information for privacy reasons. While the account manager indicated that this could be dealt with, it proved to be a challenge when HPC attempted to initialize the SecurID Cards. Qwest Help Desk representatives indicated that it would need that information to troubleshoot card issues. It took almost three months for the account manager to provide a resolution to the issue. HPC submitted an updated SecurID form to its IMA system administrator on March 23, 2000. When HPC personnel attempted to access the IMA-GUI on March 29, 2000, they were not allowed because the IMA Help Desk had not received the new form. It took almost two weeks for the new form to get to the IMA Help Desk so that HPC could establish its IMA-GUI accounts.

5.1.4 Results

The following table presents individual findings cross-referenced to objectives listed in CGE&Y's Arizona 271 TSD.

TSD Objective and Section Reference	Objective Satisfied?	Source	Comments
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TSD Objective and Section Reference	Objective Satisfied?	Source	Comments
1) Is it clear whom the CLEC should contact to get started doing business with Qwest? (6.2.3.2)	Y	http://www.qwest.com/wholesale/clecs/clec_index.html	The Wholesale website details information for the initial contacts that a CLEC is to make at Qwest to begin the account establishment process, interconnection negotiation, account management assignment, etc., for both facilities-based CLECs and resellers.
2) Is the process for becoming a Qwest wholesale CLEC customer clearly presented and explained? (6.2.3.2)	Y	http://www.qwest.com/wholesale/clecs/clec_index.html and http://www.qwest.com/wholesale/clecs/reseller_index.html	The Wholesale website details a 5-step process for facilities-based CLECs and a 12-step process for resellers. The collateral information obtained from the account management personnel was very well constructed and easy to follow. This information has since been incorporated into the Wholesale website.
3) Are the steps for the CLEC clearly documented? If so, is the information required to complete each step reasonable? (6.2.3.2)	Y	http://www.qwest.com/wholesale/clecs/clec_index.html and http://www.qwest.com/wholesale/clecs/reseller_index.html	The Wholesale website details a 5-step process for facilities-based CLECs and a 12-step process for resellers. These step-by-step instructions also include the Qwest contact from whom to obtain information. The "Getting Started Guides" for both CLECs (i.e. facilities-based) and Resellers have been kept current, and contain many hyperlinks to other pages of interest and necessity.
4) Does the documentation provided to CLECs by Qwest clearly delineate the responsibilities of the CLEC-Qwest business relationship? (6.2.3.2)	Y	http://www.qwest.com/wholesale/clecs/clec_index.html and http://www.qwest.com/wholesale/clecs/reseller_index.html	The Wholesale website details the 5-step process for facilities-based CLECs and the 12-step process for resellers. These step-by-step instructions also inform the facilities-based CLECs and resellers where to obtain the information needed.
5) Does the startup documentation available to CLECs provide adequate contact information? (6.2.3.2)	Y	http://www.qwest.com/wholesale/clecs/clec_index.html and http://www.qwest.com/wholesale/clecs/reseller_index.html	The Qwest Wholesale website provides sufficient contact information for a prospective CLEC to establish its business relationship with Qwest and conduct ongoing business functions. Examples of contact information provided to CLECs are Qwest negotiation team contacts, Qwest Interconnect Service Centers, and provisioning and repair phone numbers for various product types.
6) Does the startup documentation available to CLECs identify escalation processes? If so, are these processes useable? (6.2.3.2)	Y	http://www.qwest.com/wholesale/clecs/exesclover.html	The Wholesale website provides escalation criteria and instructions in the section titled "Expedites and Expectations Overview," and provides links to other pages where contact numbers can be found. It also provides a link to the SIG for expedites or escalations on service orders. The processes were found to be usable by the Pseudo-CLEC during its conduct of the Functionality

TSD Objective and Section Reference	Objective Satisfied?	Source	Comments
			Test. Weaknesses in these processes were documented in AZIWO1145. This IWO has been closed.
7) Does the startup documentation available to CLECs clearly outline the work activities required in order to bill IXCs for jointly provided switch access? (6.2.3.2)	Y	http://www.qwest.com/wholesale/clecs/clec_index.html	The Wholesale website provides detailed information on the Meet Point Billing process, applicable regulations and guidelines, and the role of Qwest in the process. It also provides links to the Multiple Exchange Carrier Ordering and Design (MECOD) and Multiple Exchange Carrier Access Billing (MECAB) documents of the OBF.
8) Does the startup documentation available to CLECs clearly outline the responses to be expected from each of the pre-order queries? (6.2.3.2)	Y	http://www.qwest.com/wholesale/clecs/preordering.html and http://www.qwest.com/wholesale/downloads/2001/011126/users_guidepreorder_11262001.pdf	The TSD objective for this table item was incorrectly stated in the initial releases of this report. It is now correct. <ul style="list-style-type: none"> The URLs listed at left adequately describe the expected responses to pre-order queries. The first URL is for a webpage titled "Pre-Ordering Overview," and the second is for the pre-order section of the IMA 8.01 User Guide.
9) Does the startup documentation available to CLECs clearly outline the steps for processing orders of various types? (6.2.3.2)	Y	http://www.qwest.com/wholesale/pcat/interconnection.html and http://www.qwest.com/wholesale/pcat/resale.html and http://www.qwest.com/wholesale/clecs/ordering.html and http://www.qwest.com/wholesale/clecs/lsog.html and http://www.qwest.com/wholesale/dow	The URLs listed at left adequately describe the ordering steps for the various types of products available to CLECs. The first and second URLs are the "home pages" of Facilities-Based CLECs and Resellers respectively. These pages contain drop-down menus to navigate to the product description for each product. The third URL is for a page called "Ordering Overview" that contains many of Qwest's ordering processes. The fourth URL is the home page for Qwest's Local Service Ordering Guidelines (LSOG). Finally, the fifth URL is for the Order section of the IMA 8.01 User Guide.

TSD Objective and Section Reference	Objective Satisfied?	Source	Comments
		nloads/2001/011116/UsersGuideOrder.pdf	
10) Does the startup documentation available to CLECs thoroughly identify and explain all reasons for rejects? (6.2.3.2)	Y	http://www.qwest.com/wholesale/clecs/ordering.html and http://www.qwest.com/wholesale/downloads/2001/011128/8_01_CLEC_Common_Error_Message_Appendix_A.pdf	The Wholesale website contains a list of Reject Reasons in the "Ordering Overview" document located at the first URL listed at left. Additionally, the IMA User Guide contains an appendix with common error messages (see second URL at left).
11) Does the startup documentation available to CLECs clearly set expectations on service intervals for resale and interconnection services? (6.2.3.2)	Y	http://www.qwest.com/wholesale/downloads/2002/020222/SIG_Interconnection022102official.doc	The Qwest SIG is sufficient and is updated on a regular basis.
12) Does the startup documentation available to CLECs sufficiently document the types of customized bills available for their use? (6.2.3.2)	Y	http://www.qwest.com/wholesale/clecs/output.html http://www.qwest.com/wholesale/clecs/billpercentworksheets.html http://www.qwest.com/wholesale/clecs/bart.html http://www.qwest.com/wholesale/clecs/cris.html http://www.qwest.com/wholesale/clecs/duf.html http://www.qwest.com/wholesale/clecs/iabs.html	The Wholesale website contains a comprehensive discussion of all available billing formats and their application.

TSD Objective and Section Reference	Objective Satisfied?	Source	Comments
		http://www.qwest.com/wholesale/clecs/taxexempt.html	
13) Is Tariff (SGAT) pricing information made available to CLECs? (6.2.3.2)	Y	http://tariffs.uswest.com:8000/	<p>The Wholesale website provides the CLECs with contact lists (by state) to use to gather tariff information. This section of the Wholesale website also contains links to both a Qwest Tariff Library (sorted by state) and a Qwest Tariff activity bulletin board (viewable by date or jurisdiction (state)).</p> <p>The Wholesale website also contains a Universal Service Order Code (USOC) Search and Field Identifier (FID) Finder that allows interactive searching of available USOCs and FIDs.</p>
14) Does the startup documentation available to new CLECs clearly explain how to report troubles, create trouble tickets, obtain status on troubles, escalate and close trouble tickets? (6.2.3.2)	Y	http://www.qwest.com/wholesale/clecs/maintenance.html and http://www.qwest.com/wholesale/clecs/exesclover.html	The documentation provides new CLECs with the repair center contact numbers to report troubles. The documentation also explains what information the repair center will need to report repair issues and create trouble tickets, and contains the process to obtain the status of an open trouble ticket.
15) Does the startup documentation available to CLECs have a clear process for misdirected repair calls? (6.2.3.2)	Y	http://www.qwest.com/wholesale/clecs/maintenance.html	The Wholesale website explains that when a CLEC end user mistakenly calls Qwest for a repair, that end user will be given the CLEC's repair number to the extent that Qwest has an updated list of CLEC repair numbers.
16) Does the startup documentation available to CLECs provide repair contact telephone numbers for each major type of service? If documented, do these include appropriate contacts for the full collection of services utilized by CLECs? (6.2.3.2)	Y	http://www.qwest.com/wholesale/clecs/maintenance.html	<p>The contact repair matrix includes:</p> <ul style="list-style-type: none"> -Resale – Simple Res (IFR) -Resale – Simple Bus (IFB) -Resale – Complex POTS -Resale (Designed Services) -Unbundled Loop -Unbundled Switch -LIS Trunking -Unbundled Transport -Number Portability
17) Are the calling card and Line Information Data Bases (LIDB) implications for customers switching	Y	http://www.qwest.com/wholesale/clecs/callcardlidb.html	Qwest documentation explains that a new CLEC must arrange a LIDB storage data contract with Qwest, if it wishes to pursue such an option, and informs the CLEC to contact the account manager for additional information regarding a LIDB data storage contract. The documentation also explains the LIDB

TSD Objective and Section Reference	Objective Satisfied?	Source	Comments
from Qwest to a CLEC clearly explained? (6.2.3.2)			implications with regard to Calling Cards, Collect Calling, Bill-to-Third Number Calling, and Fraud monitoring.
18) Are the media for receiving billing outputs and reports clearly defined and accurate? (6.2.3.2)	Y	http://www.qwest.com/wholesale/clecs/cris.html http://www.qwest.com/wholesale/clecs/duf.html http://www.qwest.com/wholesale/clecs/iabs.html	The Wholesale website defines the media types that are available. These are: CRIS Summary Bill, IABS Summary Bill, IABS Sub Account Bill Detail, Daily Usage Feed, Loss Report, and Completion Report.
19) Does the startup documentation available to CLECs provide processes allowing the CLEC to escalate issues in the event Qwest doesn't respond appropriately to CLEC needs? (6.2.3.2)	Y	http://www.qwest.com/wholesale/clecs/complaint.html	The Wholesale website contains the formal complaint process for the CLECs to follow in the event that a complaint or issue has not been resolved by the responsible Qwest department in a satisfactory manner.
20) Does the documentation available to CLECs provide clear tax exemption information? (6.2.3.2)	Y	http://www.qwest.com/wholesale/clecs/taxexempt.html	The Wholesale website clearly states that it is the CLEC's responsibility to claim any exemption. The Wholesale website further details what forms are required to be submitted to Qwest for both federal and state exemption.
21) Does the documentation available to CLECs provide a clear explanation of the interfaces available to the CLEC for OSS functions? (6.2.3.2)	Y	http://www.qwest.com/wholesale/clecs/electronicaccess.html	<p>The Wholesale website explains options for the CLEC to interface with Qwest OSS. The options are via Fax or IMA for pre-order, order and post-order activities, and via Customer Electronic Maintenance and Repair (CEMR) and EB-TA for maintenance and repair. The electronic connection options available to CLECs are dial-up, direct connect via a dedicated circuit, and through web access.</p> <p>This page has been updated to reflect the most current information, and now also contains forms for a CLEC to request access to the various interfaces.</p>
22) Does the documentation available to CLECs provide detailed information as to the means available for OSS access, available data files, and connectivity options?	Y	http://www.qwest.com/wholesale/clecs/electronicaccess.html and http://www.qwest.com/wholesale/downloads/2001/01111	The Wholesale website provides instructions for CLECs to follow to gain OSS access and gives connectivity options. The forms required are outlined and provided for the CLEC to submit to the account manager.

TSD Objective and Section Reference	Objective Satisfied?	Source	Comments
Is the method for ordering each clearly explained, and are the timeframes listed for acquiring each type of access options? (6.2.3.2)		6/801 Connection Guide.pdf and http://www.qwest.com/wholesale/downloads/2001/011110/IMAEDIImplementationGuidelines7.doc	
23) Does the documentation available to CLECs clearly identify Qwest's SS7 certification requirements? (6.2.3.2)	Y	http://www.qwest.com/wholesale/pcat/ccsacss7.html	The Wholesale website provides the worksheets the CLEC must use to prove compliance and compatibility with network standards. The worksheets contain the criteria the CLEC switch must meet to gain SS7 certification.
24) Does the documentation available to CLECs clearly identify the Qwest directory listing options available to CLECs including the features and functionality that can be made available to CLEC customers? Are the changes, if any, for these services clearly explained? (6.2.3.2)	Y	http://www.qwest.com/wholesale/pcat/whitepagedirlist.html	The Wholesale website details the options that a CLEC has for directory listings. The section explains what the CLECs responsibilities are for its customers' directory listings.
25) Does the documentation available to CLECs contain a process allowing CLECs to request new services? Is the process for requesting the new services clear and are the steps required and timeframes for response clearly delineated? (6.2.3.2)	Y	http://www.qwest.com/wholesale/preorder/bfrsrprocess.html	The Wholesale website contains a process for the CLEC to follow and the form for the CLEC to submit when requesting new services (the New Services Request Application).

TSD Objective and Section Reference	Objective Satisfied?	Source	Comments
26) Does the documentation available to CLECs contain clear information and rules for the handling of long distance carrier information – Primary Interexchange Carrier/Local Primary Interexchange Carrier (PIC/LPIC) changes? (6.2.3.2)	Y	http://www.qwest.com/wholesale/preorder/ldselection.html	The Wholesale website clearly states that only PIC/LPIC changes initiated by the CLEC on behalf of the end-user will be processed. Qwest will reject any PIC/LPIC changes by Interexchange Carriers (IXCs) on CLEC accounts.
27) Does the documentation available to CLECs contain appropriate rules for handling customer switches from CLEC to CLEC? (6.2.3.2)	Y	http://www.qwest.com/wholesale/clecs/migrateconvert.html	The Wholesale website informs the CLEC of its responsibility for obtaining all information needed to process the disconnect order and re-establish the service on behalf of the end user. The documentation also provides instructions for the CLEC to follow in order to resolve disputes (e.g., slamming).
28) Does the documentation available to CLECs contain detailed information regarding the products available for resale? (6.2.3.2)	Y	http://www.qwest.com/wholesale/pcat/resale.html and http://www.qwest.com/wholesale/pcat/interconnection.html	The Qwest Product Catalog has been continuously improved during the course of this evaluation, and all outstanding IWOs regarding the Product documentation have been closed.
29) Does the documentation available to CLECs contain detailed information about Qwest Performance Measurement system? (6.2.3.2)	Y	http://www.qwest.com/about/policy/sgats/#arizona	The SGAT contains language relating to monthly service performance reporting, and each CLEC is free to negotiate whatever modifications to the SGAT language it wishes. Additionally, the Arizona PID has been published and is available to interested parties.
30) Does the documentation available to CLECs contain detailed information about the Qwest CICMP? (6.2.3.2)	Y	http://www.qwest.com/wholesale/cicmp/index.html	The CICMP website contains a full explanation of the CICMP process. See Section 5.6 of this document for CICMP information.

5.2 CLEC Account Management

The CLEC account management evaluation included an examination of the published and actual methods and procedures provided by Qwest for managing on-going business

relationships with the CLECs. Per Section 7.2 of the MTP and Section 6.1 of the TSD, the evaluation examined:

- The timeliness, accuracy, and completeness of Qwest responses to account inquiries
- The timeliness and responsiveness of help desk call processing
- The appropriateness and methods applied to help desk call closures
- The frequency and appropriateness of problem escalation efforts that are taken in response to CLEC inquiries
- The reasonableness of forecasting requests and the extent to which forecast information is applied by Qwest into its various planning activities
- Communications avenues that are made available to CLECs by Qwest, and the extent that these are effective

Activities

The activities performed in conducting the CLEC account management evaluation included:

- Gathering of Qwest CLEC help desk, forecasting, communications, and other account management process documentation
- Review and evaluation of the account documentation provided by Qwest
- Interviews of Qwest personnel
- Distribution of questionnaires to participating CLECs⁵⁴
- Documentation of observations

5.2.1 Questionnaires

Questionnaires regarding Qwest account management were sent to all of the CLECs that participate in the Qwest CLEC Forum, and those that actively participate in the Arizona 271 TAG, including the Pseudo-CLEC. Formal responses were received from only seven CLECs, although informal responses were received via telephone calls and e-mails throughout the evaluation process.

Questionnaire responses generally agreed with the results of the overall evaluation. Specifically, participants feel that the process as it has evolved is generally good, with some weak areas.

The relevant points highlighted by the questionnaires are summarized below:

- Most respondents felt that Qwest's contract amendment process was inconsistent and sometimes needlessly time-consuming. Numerous instances were cited, such as companies engaging in lengthy contract negotiations only to find that no amendment was necessary, different companies experiencing substantially different negotiation timeframes for

⁵⁴ CGE&Y Archive File: RME #8 – CLEC Account Management Questionnaires

the same product, and several disputes surrounding whether an amendment was necessary in the first place. Qwest also appeared to lack a consistent document change control process for contracts. Several instances were cited by CLECs and the Pseudo-CLEC of red-lined changes being ignored upon subsequent issuance of various amendments.

- All respondents were dissatisfied with AMSC procedures. Specific areas of reported deficiency were the AMSC's closing of trouble tickets without proper notification to CLEC, the AMSC's closing of trouble tickets without clearing the trouble, and inconsistent escalation experiences.
- Most respondents were dissatisfied with the responsiveness of Qwest's wholesale systems help desk.
- All respondents agreed that their account managers/teams can be very responsive and prompt at times, but this is not a consistent pattern. They feel that, on the whole, account inquiries are not handled in a timely manner.
- Most respondents felt that workforce reductions within Qwest have hampered the account managers' ability to quickly and efficiently respond to CLEC inquiries.
- Most respondents expressed dissatisfaction with the information available on the Qwest wholesale website. This topic is discussed in more detail in Section 5.2.3.
- The smaller CLECs expressed concern over the apparently heavy workload of their account managers. Account managers of small CLECs manage up to six accounts at a time, and some small CLECs reported less than satisfactory experiences in getting responses from their account managers.
- Many CLECs were unhappy with Qwest's forecasting process. The two primary concerns were that Qwest's forecasts were required too far in advance of most CLECs' business plans to support, and that they felt that their forecasts were often ignored by Qwest even when provided.

5.2.2 Interviews

CGE&Y conducted in-person interviews with Qwest personnel involved in account management, forecasting, network and collocation augmentation and build-out, training, and network interconnection. The results are summarized below.

Account Management

For the account managers, the account management phase consists largely of the following:

- Fielding questions and educating the CLECs about new products as they become available.
- Answering calls from many of the small to medium-sized CLECs about “what if” scenarios mainly dealing with products, combinations of products, ordering scenarios, etc.
- Handling escalations of installation problems/disputes and Maintenance and Repair (M&R) tickets. There is a published procedure for escalations on the Qwest wholesale website, but very often the CLECs, the smaller ones at least, don’t follow it and go through the account manager for all escalations.
- Proactively selling services to the CLECs

Information Available to CLECs on the Web

The Wholesale website is the primary source of information for CLECs, at least during the account establishment process. It contains most of the information a CLEC requires to initiate its business plan as a CLEC with Qwest, including the 12-step account establishment process, product descriptions, pre-ordering business procedures, etc

During initial interviews with Qwest, it became apparent that there was no central authority within Qwest responsible for the content and format of the Qwest Wholesale website. This deficiency resulted in a number of IWOs being issued. These are discussed in Section 5.1.3 of this report.

As discussed in Section 5.1.3, the information contained on Qwest’s Wholesale website progressed during the conduct of CGE&Y’s Arizona 271 OSS Test from largely inadequate to satisfactory. Qwest has made great improvements to its website and continues to do so. Further, in the future much of the information available to CLECs on the Qwest Wholesale website will fall under the aegis of Qwest’s CMP. Please see Section 5.1.3 for a more detailed discussion of this website.

Forecasting

CGE&Y discussed forecasting briefly with the account management teams. The account managers participate in and facilitate the forecasting process, but are not an integral part of it. The account managers interviewed offered the following observations:

- ❑ It is felt that many CLECs, particularly the smaller ones, do not have the innate expertise to accurately forecast network element needs.

- ❑ Many CLECs, particularly the smaller ones, may not understand the types of information Qwest is looking for in these forecasts.
- ❑ Qwest feels that many CLECs are reluctant to provide detailed forecasts because they are afraid that they would be “revealing their business plans,” which could then be shared with competitors. Qwest assured CGE&Y as an aside that there are ample procedures in place to ensure that this never occurs.
- ❑ Another source of inaccuracy of CLEC forecasts, in Qwest’s opinion, is the fluid nature of CLECs’ business models and the attendant changes it brings. For instance, a CLEC may forecast X number of lines to be installed in a particular Metropolitan Service Area (MSA), only to change the focus to a different MSA and never inform Qwest of this change.

The account managers briefly explained the process that Qwest follows:

- ❑ All CLEC interconnection agreements call for quarterly forecasting; however, these quarterly forecasts are only for LIS trunking, according to Qwest. Once per quarter the account managers, Qwest network capacity planners, and CLEC representatives meet, usually over the phone, and conduct a forecasting meeting. Depending on the size of a CLEC’s network, these meetings can be lengthy.
- ❑ Collocation forecasts, according to Qwest-supplied documentation, are submitted semi-annually by the CLECs.
- ❑ An organization within Qwest monitors compliance with the CLECs’ quarterly forecasting requirement and notifies the account managers of CLECs that haven’t completed their forecasts.
- ❑ Once CLEC forecasts are received by the network capacity planning group, a forecast is issued internally.

CGE&Y next met with a group of Qwest representatives responsible for various facets of the CLEC forecasting process.⁵⁵ The results of those interviews is presented here.

Product Forecasting:

CGE&Y met with Qwest’s Director of Wholesale Product Forecasting. He described the process as followings:

1. Actual order volumes are received
2. Assumptions are applied to actual volumes to produce forecast trends
3. Subject matter experts, regulatory analysts, marketing professionals, legal counsel, etc., are consulted to discuss events that could impact the forecasts
4. The forecasts then go to representatives of IT systems, staffing, and network planning in order to plan and scale their operations appropriately

⁵⁵ CGE&Y Archive File: RME #2 – Qwest Personnel Interviews

CGE&Y submitted data request RTDR-05⁵⁶ to obtain the assumptions Qwest applies to order/trunk volumes in order to arrive at a finished forecast.

Collocation Forecasting and Application:

CGE&Y met with personnel involved in collocation space and power planning. The following points were made about collocation processes:

1. Collocation applications as well as augmentation applications are available on the Qwest web site
(<http://www.qwest.com/wholesale/pcat/collocation.html>)
2. Space is always first-come, first-served
3. Once an application for new space or augmentation of existing space is received by Qwest, the Space and Power engineers evaluate the request and either OK it, deny it, or offer an alternative proposal
4. Collo space bulletins are published by Qwest on a monthly basis
5. The State Interconnection Manager function coordinates site visits for CLECs that have been denied space and are disputing that denial of space
6. According to those present, requests for augmentation of virtual collocations go directly to the CO engineering manager
7. Testing of collocations is covered in interconnection agreements

Interoffice Planning and Switch Planning:

The following points were made:

1. The Interoffice Planning representatives use the CLEC forecasts plus the actual usage from the previous reporting period for planning purposes
2. It takes Qwest 5 – 6 months to add capacity in “under-forecast” situations
3. Schedules are posted on the Qwest website for upgrades of CO equipment
(http://www.qwest.com/cgi-bin/iconn/iconn_switchconversion.pl?function=11)

LIS Trunk Forecasting:

The following points were made:

1. LIS forecast meetings are performed once per quarter, per the interconnection agreements
2. Qwest sends the CLECs a copy of their last forecast as a preliminary forecast to use during the quarterly forecasting meeting
3. Network Planning sends account reminders to CLEC account managers to remind them that a forecast is coming due
4. Many CLECs seem reluctant to share forecast data, or how they arrived at their forecast, for fear of Qwest revealing that data to other CLECs. Qwest

⁵⁶ CGE&Y Archive Rile: RME Data Requests

gives assurances that this information is confidential and will not be shared with any other outside organization.

5. Qwest provides CLECs with Under-Utilization Reports on their LIS trunks. Some CLECs agree and disconnect the under-utilized trunks, while others disagree and offer extenuating circumstances to keep the trunks in place.
6. There is a process within Qwest to unilaterally “reclaim” under-utilized trunks. According to those present, this had so far never been done to their knowledge.
7. There is a process, and a form available on Qwest’s website, for requesting un-forecasted LIS trunks
(http://www.qwest.com/wholesale/downloads/2001/011018/Unforecasted_Demand_Notification_Form.xls). These requests, however, may not be honored depending on availability of facilities.

CGE&Y also conducted interviews with CLEC personnel involved with the contract management function. In general they were unhappy with Qwest contract management. Those interviewed indicated that for commonly offered products and services Qwest’s contract management process generally runs smoothly. However, for new products, special products, or changes to existing product the process is too time consuming. Those interviewed also cited numerous occasions where Qwest had made modifications to products and services without taking into account the effects of those changes on individual CLEC contracts.

5.2.3 Documentation

Since, from a documentation perspective, the account establishment and account management processes are interchangeable, the findings detailed in Section 5.1.3 apply equally to this section.

Pseudo-CLEC Experience

The summary below is based upon the following reports issued by HPC, the Pseudo-CLEC for the Arizona 271 evaluation:

- “CLEC 12-Step Process Report for 271 Test Generator” – Version 2.0
- “Help Desk Relationship Report for 271 Test Generator” – Version 3.0

Amendment Process

HPC pursued two amendments to its Interconnection Agreement. The first was to add UNE-P capability. HPC received a Mailout (e-mail notification service provided by Qwest) describing UNE-P on February 22, 2000. HPC requested the amendment and went through four revisions of the amendment before signing the final copy on June 6, 2000. HPC received its final, signed copy from Qwest on July 12, 2000. The second amendment was for Local Number

Portability (LNP) Managed Cuts. HPC received a Mailout on that product on July 9, 2000. HPC requested the amendment on July 10, 2000, and received it on August 2, 2000. HPC reviewed and returned the signed copies on August 10, 2000. On September 12, 2000, HPC followed up with its account manager to determine the status of the amendment.

Between that date, and October 30, 2000, HPC continued to follow up with the account manager on the status. On that date, Qwest indicated that it did not know where the amendment was and sent out a replacement copy. HPC signed and returned that copy on November 12, 2000. HPC received its final signed copy on February 9, 2001.

HPC uncovered the following issues regarding amendments to its Interconnection Agreement (AZIWO1130):

- The UNE-P amendment took four revisions, and three months to complete
- The amendment for LNP Managed cuts took over seven months, and one replacement copy to complete

In response to AZIWO1130, Qwest made improvements to its tracking processes within its internal groups to ensure greater accountability and monitoring of the contract amendment process. In addition, Qwest has also implemented a change that enables CLECs to take advantage of new and revised product offerings more expeditiously by allowing CLECs to order services while an amendment is being filed and approved by the Commission (http://www.qwest.com/wholesale/clecs/clec_index.html). As a result of these changes, which CGE&Y has verified, this IWO was closed.

Help Desk Relationship

The Qwest help desks contacted by HPC and the types of issues they handle are as follows:

- Qwest Wholesale Systems Help Desk - Connectivity issues, billing files issues, software issues
- Qwest Interconnect Service Center - Order status, order information receipt
- Qwest Account Maintenance Service Center - End-user complaints, end-user line trouble, repair call issues

Contact was made to all of the above help desk functions at Qwest during the 271 test process. Contact occurred by phone, voice-mail, e-mail and fax. Contact between Qwest and the HPC Customer Service Center (CSC) occurred in both inbound and outbound directions. The following matrix provides an unofficial sample of some of the contact activity that took place between Qwest and the Pseudo-CLEC.

Type of Call	Call Direction	Number of Occurrences	Percentage
Call to Qwest-FOC	Outgoing	23	6.89%
Call to Qwest-IMA GUI Outage	Outgoing	6	1.80%
Call to Qwest-Jeopardy	Outgoing	1	1.80%
Call to Qwest-LSR_Reject	Outgoing	42	12.57%
Call to SSOP Helpdesk	Outgoing	11	3.29%
Calls Regarding CEMR	Incoming	3	0.90%
Calls Regarding CEMR	Outgoing	13	3.89%
Customer Call-Installation Iss	Incoming	25	7.49%
Customer Call-Installation Iss	Outgoing	6	1.80%
Customer Call-Trouble	Incoming	2	0.60%
Customer Call-Trouble	Outgoing	2	0.60%
Customer Complaint	Incoming	6	1.80%
DDTS Outage	Incoming	1	0.30%
DDTS Outage	Outgoing	2	0.60%
Order Status	Incoming	5	1.50%
Order Status	Outgoing	21	6.29%
Qwest call about LSR	Incoming	41	12.28%
Qwest Call In Other	Incoming	30	8.98%
Qwest Helpdesk	Incoming	1	0.30%
Qwest Helpdesk	Outgoing	26	7.78%
Repair Call	Incoming	3	0.90%
Repair Call	Outgoing	6	1.80%
Qwest Technician Call In	Incoming	58	17.37%

The following help desk issues were uncovered during the course of the Arizona 271 project:

1. HPC attempted to contact the Qwest Help Desk on May 8, 2001 (12:10 p.m.). The Qwest phone rang 40 times and there was no answer. (AZIWO1147)
2. When a call had to be transferred to another Help Desk group, calls occasionally took several rings and in some instances were not answered. The following are two instances where this was observed:
 - HPC was placed on hold when transferred to the escalation department for 17 minutes 57 seconds (150 rings) before HPC hung up. HPC called Help Desk back. Help Desk could not reach the escalations department and told HPC that they had no other way to reach them. Qwest did not call back on this escalation. ([ClearDDTS ticket number redacted] - escalation ticket 802160). (AZIWO1147)

- HPC was placed on hold when transferred to the escalation department for 13 minutes 53 seconds (65 rings). ([ClearDDTS ticket number redacted] - escalation ticket 830112). (AZIWO1147)
3. On several HPC calls to the Qwest Help Desk, HPC was placed on hold multiple (two or more) times. (AZIWO1147)

In response to AZIWO1147 Qwest researched the specific incidents and provided clarification on escalation procedures. As result, the IWO was closed.

4. HPC could not find documented Help Desk procedures that stated the process for escalation of Help Desk issues. (AZIWO1148) However it was HPC's experience that Qwest Help Desk personnel consistently provided a two-hour call back commitment. In response to this IWO Qwest published its escalation procedures to the website at <http://www.qwest.com/wholesale/clecs/exesclover.html>. As a result, this IWO was closed.
5. When issues were escalated, HPC's experience was that calls were not returned within the quoted two-hour time frame. HPC also experienced instances where calls were not returned at all. (AZIWO1145)
6. Escalation tickets were closed without notification to the Pseudo CLEC ([ClearDDTS ticket number redacted] – escalation ticket 754013; [ClearDDTS ticket number redacted] - escalation ticket 773927; [ClearDDTS ticket number redacted] – escalation ticket 754609). (AZIWO1145)
7. Escalation tickets were closed without comments to indicate the reason for the closure. ([ClearDDTS ticket number redacted] – escalation ticket 754013). (AZIWO1145)

In response to AZIWO1145 Qwest provided documentation that clarified confusion surrounding the escalation process. As a result this IWO was closed.

8. Qwest Help Desk personnel were not familiar with Service Order Completions (SOCs) notifications. HPC had to call the account manager for resends and questions concerning the generation of SOCs. (AZIWO1146) In response to this IWO Qwest initiated a training initiative to instruct its call center personnel on procedures for service order completions. CGE&Y conducted a retest of this scenario and found Qwest personnel to be knowledgeable of service order completion procedures. The IWO was closed.

9. HPC received the following error message “Invalid action code error” on UNE-P order. HPC contacted the Qwest Help Desk to resolve the error condition. HPC was told the order was issued correctly and an error should not have been generated. Qwest agreed to check further and call back with additional information. ([ClearDDTS ticket number redacted] - escalation ticket 754013).

- HPC was told issue had to be resolved by a Qwest process coach
- Contact required four calls to resolve

10. Qwest comments on notifications are confusing. HPC received a FOC on a UNE Loop cancel order with the following remark: “ca n41464044 per lsr sup 1, c41464043 not canceled due to order already cmp sdc kim n [Phone number redacted].” HPC called to clarify the meaning of the remark. The Qwest representative explained the following:

- The existing service was disconnected on 3-1-01.
- The new connect (which should have been worked at the time of the disconnect) was not completed. The new connect was rescheduled for 3-31-01.
- The problem was that Qwest should not have cancelled (rescheduled) the new connect unless the disconnect order was also rescheduled. The call was transferred to the escalation department. The representative in the escalation group reviewed the issue and agreed to call HPC back with the resolution within the next 24 hours. The call ended at 3:10 p.m. on 03-27-01. ([ClearDDTS ticket number redacted] - escalation ticket 773927). HPC had not received a call back as of 3-29-01 at 4:00 p.m. HPC subsequently received a SOC on the new connect to establish service as a UNE Loop.
- On a follow-up call, HPC contacted Qwest to verify the entries required on a UNE-P order. Qwest Help Desk advised that he was confused as he was told three different things from three different people within Qwest.

11. The following LSR notification issue was encountered by HPC:

- LSR Reject notification received by HPC - Qwest Help Desk representative could not determine what the Reject comments meant which were entered previously by another Qwest representative. Call was escalated and the representative responding to the escalation could not determine what was meant by the comment. The comment in question was “DO ORDER CREATED TO CANCEL.” Representative agreed to contact original representative in Dallas office. Representative called later

and advised HPC the order was correct and a FOC would be sent to HPC.

12. HPC called Qwest Help Desk to seek clarification of a Reject error message received. HPC was given escalation ticket 802693 at 4:41 p.m. Qwest returned call at 12:34 the following day. HPC was told the order was issued correctly and a Reject should not have been received. A FOC was later received on the order.
13. HPC called Qwest regarding an LSR Reject notification. Qwest was unsure if converting a Qwest line or adding an additional line. The HPC order contained the remark “do not disturb existing service.” No call received on the escalation ticket. FOC later received, same day (approximately 3 hours 20 minutes later).
14. HPC received LSR Rejects on the following CENTREX LSRs:
F60E281S030416 VER 00, F60E211S020416 VER 00, F60E271S020416 VER 00, F60E311S030416 VER 00, F60E301S030416 VER 00, F60E291S030416 VER 00, F60E071S110416 VER 00.
 - HPC called the Qwest Help Desk to discuss the reason for the Rejects and to clarify the entries required for successful submission of the orders. The Qwest representative advised HPC that she could only discuss a couple of the LSRs, that she had several calls in queue and could not spend a lot of time on this call. The representative later advised that she did not know why the orders were rejected. HPC was given escalation ticket # 808158.
 - HPC was transferred to the escalation department. The escalation representative advised that she thought HPC had used the wrong form. HPC advised that the CENTREX resale form was used. The representative then stated that she did not know why the LSR Reject was sent.
 - HPC was then provided the Minnesota office number. HPC was informed that the Minnesota office was responsible for Centrex orders. HPC called [Phone number redacted] and reached a recording that advised the hours of operation were 7:30 a.m. to 7:00 p.m. PST. When the recording ended, HPC was not given an option to leave a message (call was dropped and a message to “hang up and try your call again” was received.)
15. Qwest technician called HPC regarding a UNE-P service installation. Technician asked HPC what type of service UNE-P is. HPC advised Qwest technician. Technician then replied, “OK, I know what to do now.” (AZIWO1149)

16. A Qwest representative called HPC to ask what type of service UNE-P was. HPC explained the service. He said ok, he knew what that was and would tell his people what to do. (AZIWO1149)
17. Qwest technician called HPC, said they had talked to the HPC customer and the customer advised that he did not order service. The remarks on the LSR were “do not disturb customer.” (AZIWO1149)
18. Qwest technician called HPC regarding a conversion installation visit. The technician spoke to the HPC customer. The technician spoke to someone who was the subscriber who said that the HPC customer of record did not live there. (AZIWO1149)

In response to AZIWO1149 Qwest undertook the following actions:

- Retrained 100% of Network Field Technicians on Wholesale process and obligations when working with CLECs and CLEC’s end-user customers.
 - Opened the Qwest CLEC Coordination Center (QCCC) to provide single point service for CLECs for the installation of Coordinated Unbundled services.
 - Implemented process to check for CLEC dial tone 48 hours prior to coordinated installs to ensure successful migration of service at time of cut.
 - Implemented process to perform same function as above 1 hour prior to cut as an additional step to ensure success.
 - “Certified” all CO technicians on the procedures to effectively manage Wholesale CLEC work.
 - Restructured Local Network operations to include a 271 state leader, responsible for Wholesale service performance covering each state.
 - Hosts daily Local Network Coordinated Install missed commitments calls to discuss previous day’s misses (if any) and identify appropriate mitigation strategies for future occurrences.
 - Developed enhanced internal metrics capability to give Local Network management visibility to daily performance for service improvement.
 - Hosted a CLEC Operational Forum to openly discuss and resolve long-standing operations issues.
19. HPC received a call from a representative in the Qwest “Working Left-Ins” group to advise HPC that someone was moving into an apartment where there was an HPC account ([Phone number redacted]). The incoming Qwest customer wanted service installed on 04-06-01. HPC called CGE&Y to determine if the service could be disconnected. CGE&Y advised HPC that the service could be disconnected, but that it would be several days (04-09-

01) before they could get a script to HPC. HPC advised Qwest that it could issue a disconnect order on 04-09-01. Qwest asked if they could disconnect the service, HPC advised yes, Qwest then disconnected the service and forwarded a FOC to HPC. HPC did not submit an LSR for the disconnect order. ([ClearDDTS ticket number redacted])

20. HPC issued a cancellation on a UNE-Loop order (PON F51E1189060220). The service was disconnected 03-01-01, but only the new service was cancelled resulting in an out of service condition for the customer. The new service was rescheduled for 03-31-01. Qwest agreed to resolve within 24 hours. HPC was not contacted. However, a SOC was later received on the new service installation.
21. HPC issued LSR to convert a 1FR to UNE-P. Due to confusing Qwest documentation and inconsistent information received from the Qwest Help Desk, an HPC customer's service was disconnected ([Phone number redacted]). HPC contacted Qwest to resolve issue. Escalation ticket – 830112. Call was transferred to escalation department. HPC was on hold for 4 minutes and 43 seconds (65 rings). HPC hung up and recalled Help Desk. The phone rang 40 times before HPC hung up. HPC called again and was transferred to escalations, reached voice mail and left a message. HPC called again and asked to speak with a manager and was given a duty pager. Qwest manager called back, advised HPC it was a Qwest error and agreed to have customer service reinstalled before the close of business.
22. HPC called the Qwest Help Desk to determine why an HPC customer's second line was disconnected. Qwest provided an escalation number- 830112, and attempted to transfer the call to the escalation department. The escalation department could not be reached.

5.2.4 Results

CGE&Y finds that Qwest's account management processes, while requiring improvement and/or reinforcement, adequately meet the needs of the CLEC community.

Areas requiring improvement and/or reinforcement (i.e., additional training for Qwest personnel) are summarized as follows:

- CGE&Y interviewed Qwest's AMSC supervisory personnel and discussed AMSC procedures. Personnel were found to be knowledgeable and procedures soundly-designed. The evidence presented by the CLECs and Pseudo-CLEC suggests, however, that procedures for trouble ticket status updates and closure are not being followed by personnel representing the AMSC and other CLEC-facing help desks at least part of the time. CGE&Y issued AZIWO1145 – 1149 to address many of the exceptions noted during

the test of help desk functions, and Qwest has undertaken several training and procedural initiatives with its help desk personnel to address these. As a result, these IWOs were closed.

- Responses to CLEC questionnaires and the experiences of HPC point to inconsistent processes in Qwest's execution of contract amendments. Specific weaknesses appear to be centered in the tracking and document control of these amendments, and also in the development of amendment templates following the release of new products. CGE&Y issued AZIWO1130 to address this issue. In response to AZIWO1130, Qwest made improvements to its tracking processes within its internal groups to ensure greater accountability and monitoring of the contract amendment process. In addition, Qwest has also implemented a change that enables CLECs to take advantage of new and revised product offerings more expeditiously by allowing CLECs to order services while an amendment is being filed and approved by the Commission (http://www.qwest.com/wholesale/clecs/clec_index.html). Finally, CGE&Y verified Qwest's improvements to this process by monitoring an additional contract amendment initiated by the Pseudo-CLEC in the Summer of 2001. The Pseudo-CLEC submitted an amendment to its interconnection agreement for the Line Splitting product offered by Qwest. The amendment was submitted to Qwest on 07/07/01 and was approved on 08/07/01. As a result, the IWO was closed.
- Qwest has made great strides in improving the quality of information offered to CLECs through its wholesale website. Qwest must continue its efforts in this area.

Forecasting is an area where there seems to be a great deal of dispute between the CLECs and Qwest. Qwest feels that CLECs are unwilling, and in some cases unable, to provide accurate forecasts for network needs; and the CLECs feel that Qwest's forecasting requirements are unrealistic. CGE&Y found that Qwest provides CLECs with adequate tools and instructions for completing accurate forecasts. CGE&Y believes that the nature of the dispute surrounding forecasts stems from the different business models used by CLECs versus Regional Bell Operating Companies (RBOCs).

The following paragraphs, summarized from Qwest's wholesale website, describe the LIS forecasting process and serve to illustrate this issue.

Switch capacity growth requiring the addition of new switching modules may require six months to order and install. To align with the timeframe needed to provide for the requested facilities, including engineering, ordering, installation and make ready activities, the parties will utilize Qwest standard forecast timelines, as defined in the standard Qwest LIS/Type 2 Trunk forecast forms for

growth planning. For capacity growth, Qwest will utilize CLEC forecasts to ensure availability of switch capacity.

Each party will utilize the forecast cycle outlined on the Qwest LIS/Type 2 Trunk forecast forms, which stipulates that forecasts be submitted on a quarterly basis. The forecast will identify trunking requirements for a two-year period. From the quarterly close as outlined in the forecast cycle, Qwest will have one month to determine network needs and place vendor orders which may require a six month minimum to complete the network build. Seven months after submission of the initial forecast, Qwest will have the necessary capacity in place to meet the CLEC forecast. After the initial forecast, Qwest will ensure that capacity is available to meet CLECs' needs as described in the CLEC forecasts.

Both parties will follow the forecasting and provisioning requirements of the interconnection agreement for the appropriate sizing of trunks, and use of direct end office versus tandem routing.

The LIS/Type 2 interconnection forecasting schedule is as follows:

Assumes Two Year Forecasting Cycle

Forecast Due to Service Manager (Month/Day)	Final View of Forecast For:
12/01	3rd qtr. second year
3/02	4th qtr. current year
6/01	1st qtr. second year
9/07	2nd qtr. second year
12/07	3rd qtr. second year

The use of a two-year forecasting cycle is a sound one for a company that has been in business for as long as Qwest. CLECs on the other hand, many of whom have not yet been in business for two years, may find it impossible to provide a trunking forecast two years in advance.

The collocation forecasting requirements, by way of comparison, follow a one-year forecasting schedule. The following paragraphs have been summarized from Qwest's wholesale website.

The CLEC shall submit an annual forecast, updated at the end of each quarter, of its future collocation requirements. The quarterly forecast shall be reviewed by the CLEC and the Qwest service manager. The CLEC forecast shall be considered accurate for purposes of collocation intervals if the subsequent collocation application is within twenty percent of the forecast.

The forecast shall include, for each Qwest premises, the following:

- Identification of Qwest premises
- Floor space requirements, including the number of bays for a cageless collocation arrangement
- Power requirements
- Heat dissipation
- Type of collocation (e.g., caged physical, cageless physical, shared ICDF, virtual)
- Entrance facility type
- Type and quantity of terminations
- Date co-provider expects to submit its collocation application

Following is the collocation forecasting schedule:

Forecast due to Service Manager (Month/Day)	Final View of Forecast For:
12/01	1st quarter current year
3/02	2nd quarter current year
6/01	3rd quarter current year
8/01	4th quarter current year
11/30	1st quarter following year

It is unclear to CGE&Y why Qwest would use a two-year forecasting cycle for LIS trunks and a one-year cycle for collocation facilities since the two are somewhat related. In the future, it may be possible for Qwest to make the processes more consistent. Nevertheless, Qwest provides CLECs with ample tools and instructions for completing their forecasts and CGE&Y finds these procedures to be adequate.

A comprehensive study of the soundness of Qwest's forecasting procedures would be outside the scope of an OSS test; however, CGE&Y finds that the information provided to CLECs allows them to provide forecasts to Qwest. CGE&Y issued Data Request RTDR-05 to obtain a copy of a "finished" forecast as compiled by Qwest after its business assumptions are applied.

Further results, based upon CGE&Y's own findings and the experiences of the Pseudo-CLEC, are summarized in the following table:

Process	Area	Evaluation Measure	Evaluation Technique	Findings
Help Desk	Timeliness	Speed of Answer	Observations Interviews	Speed of Answer was generally one ring and the AVR system answered. The caller is instructed to select an option and is transferred to the corresponding center. The time it took to answer after transferring was generally quick. If a “warm transfer” is requested to another department or to escalate a trouble, the wait can be several minutes.
		Problem Resolution Time	Observations Interviews	The Pseudo-CLEC Help Desk Report, Section 8.0 has a table that depicts calls closed on the initial contact as almost 55% of the total calls. The total calls were 555 through August 2001. Further, the results of the Functionality Test M&R evaluation show that Qwest met its repair commitment time and closed tickets accordingly the majority of the time.

Process	Area	Evaluation Measure	Evaluation Technique	Findings
		Call Backs	Observations Interviews	The Pseudo-CLEC Help Desk Report, Section 8.0, has a table showing the percentage of calls closed on the initial contact as 55% of the total calls, which leaves 45% as candidates for callbacks. An additional 5% were closed after callbacks according to HPC's records. Most, if not all, escalated calls received callbacks, but were still open awaiting resolution. Qwest closed some tickets without notifying HPC, as detailed in the Help Desk Report, Sections 7.1 and 7.2. and outlined in AZIWO1145.
	Knowledge of Subject		Observations Interviews	CGE&Y issued AZIWO AZIWO1149 to address issues with the knowledgeability of Qwest's ISC, help desk and/or trouble administration personnel. The resolution to this IWO is discussed in Section 5.2.3.
	Quality of Response	Closures	Documentation Review Observations Interviews	The Pseudo-CLEC Help Desk Report, Section 7.1 General Test Observations: <ul style="list-style-type: none"> Escalation tickets were closed without comments to indicate the reason for the closure. (E.g. [ClearDDTS ticket number redacted] – escalation ticket 754013). AZIWO1145
		Referrals	Observations	The referrals experienced by the Pseudo-CLEC were limited to being referred to the Escalations function. See below.

Process	Area	Evaluation Measure	Evaluation Technique	Findings
		Escalations	Observations Interviews	CGE&Y issued AZIWO1145 to address specific issues with Qwest's handling of Pseudo-CLEC escalations. This issue is discussed in greater detail in Section 5.2.3.
		Tracking	Documentation Review Observations Interviews	Qwest's tracking of Help Desk tickets was found to be satisfactory with no deficiencies noted.
Communications Proactive	Process Assistance	Availability of Information	Documentation Review Observations	HPC received over 90 Mailouts and over 28 emails from the Qwest CMP team that contained process in the Subject. Over 2,273 emails were received from Qwest during the last two years.
		Attention to Details	Documentation Review Observations	Communications were found to be sufficiently detailed for HPC to not require further information.
	Product Assistance	Availability of Information	Documentation Review Observations	HPC received over 181 Mailouts and several emails from the Qwest CMP team that contained Product in the Subject. Over 2,273 emails were received from Qwest during the last two years.
	Awareness	Attention to Details	Documentation Review Observations	Over 2,273 emails were received from Qwest during the last two years.
		Availability of Information	Documentation Review Observations	Over 2,273 emails were received from Qwest during the last two years.
Communications Reactive	Assistance	Availability	Observations Interviews	HPC's records of its interactions with its Account Manager indicate that the Account Manager responded to issues within a reasonable amount of time.

Process	Area	Evaluation Measure	Evaluation Technique	Findings
		Attention to Detail	Observations Interviews	Communications were found to be sufficiently detailed for HPC to not require further information.
	Problem Resolution			HPC's records of its interactions with its Account Manager indicate that the Account Manager responded to issues within a reasonable amount of time and resolved troubles in an appropriate manner.
Forecasting	Information	Coverage	Documentation Review Observations Interviews	Qwest was found to provide adequate information to CLECs for the completion of required forecasts.
		Quality	Documentation Review Observations Interviews	Qwest was found to provide adequate quality information to CLECs for the completion of required forecasts.
	Outlook Computation	Quality	Observations Interviews	Qwest was found to incorporate CLECs forecasts into a finished product following its own methods, which CGE&Y obtained.

5.3 CLEC Training

Per the MTP Section 7.2 and the TSD Section 6.1, the purpose of the CLEC training evaluation was to determine the availability of training schedules to the CLECs, how often this information is made available and in what formats this information is offered. This evaluation also examined the frequency of training on different topics and the effectiveness of the curricula. Documentation made available to CLECs in conjunction with CLEC training was also reviewed, including user guides, workbooks, student guides, and online references.

During the course of this evaluation, Qwest rolled out a new and vastly improved CLEC training program. Prior to February 1, 2001, Qwest's catalog of training courses available to CLECs consisted of only two formal classes: an IMA class and a directory listings class. Furthermore, the IMA class, as observed by CGE&Y, was inadequate in serving the training needs of a typical CLEC IMA user. The lack of classes overall, and inadequacy of the IMA class resulted in AZIWO1066 and AZIWO1067.

On February 1, 2001, Qwest made available to CLECs an entire catalog of new courses addressing a majority of their training needs in systems, products and processes (<http://www.qwest.com/wholesale/training/coursecatalog.html>). CGE&Y randomly chose two of these new classes to attend and evaluate, and requested feedback on the other classes from any CLEC that attended them. As a result of these actions, AZIWO1066 and AZIWO1067 were closed.

The majority of this section on CLEC training is a review of Qwest's new training program. The only exception to this is Section 5.3.3 which describes CGE&Y's experience with the original IMA class, in addition to the new classes attended.

5.3.1 Questionnaires

Questionnaires regarding Qwest CLEC training⁵⁷ were sent to all of the CLECs that participate in the Qwest CLEC Forum, and those that actively participate in the Arizona 271 TAG, including the Pseudo-CLEC. Formal responses were received from only seven CLECs, although numerous informal responses were received via telephone calls and e-mails throughout the evaluation process. Following the roll-out of Qwest's new training program, CGE&Y also requested and received feedback from CLECs regarding their experiences with these new classes.

The questionnaire responses received prior to Qwest's new training roll-out were generally negative. CLECs felt that the available classes did not meet their training needs, and that the classes were not very useful. Feedback received about Qwest's new classes, on the other hand, has been very positive.

CLEC feedback on Qwest's new classes is summarized below:

- Respondents were very happy with the quantity and variety of Qwest's new courses.
- Since the classes are new, the instructors are not always completely familiar with the subject matter.
- The IMA-GUI "Hands-On" class did not adequately cover the needs of both novice and experienced users.
- Most of the classes are conducted by the instructor reading from the class handbook, sometimes with the aid of visual aids and sometimes not. Respondents felt that the classes should be developed to be more interactive.

5.3.2 Interviews

CGE&Y did not conduct any formal interviews with Qwest's training personnel. Information related to training development activities was obtained during formal interviews with Qwest account management personnel and informal discussions with Qwest classroom trainers during classes attended by CGE&Y.

⁵⁷ CGE&Y Archive File: RME #4 – Qwest Training Questionnaires

The formal and informal interviews indicated that a new manager had been appointed to develop CLEC training and that plans for new training were being developed. Those interviewed said that the need for expanded training had been recognized for some time based on CLEC feedback.

The courses were developed with extensive input from product specialists and based upon the input received through the account management staff from the CLECs, according to those interviewed.

5.3.3 Documentation

CGE&Y found the training material made available during the IMA-GUI “Hands-On” class and the UNE-P POTS class⁵⁸ to be well constructed, easy to follow, and up to date. Materials distributed during the IMA-GUI “Classic” course were found to be insufficient. Please see Section 5.3.4 for a more detailed description of the course materials for this class.

5.3.4 Observations

CGE&Y observed three classes offered by Qwest during the course of this evaluation; one before the roll-out of Qwest’s new classes and two after. CGE&Y’s experiences are described in the paragraphs that follow.

CGE&Y personnel attended a one-day IMA-GUI overview in the spring of 2000. The training provided a good overview of the IMA-GUI system, and afforded class participants an opportunity to view the interface and its various functions and observe some of the processes involved in pre-order, order, and M&R through IMA-GUI.

CGE&Y found this class to be inadequate in meeting trainees’ needs in several respects. While the IMA-GUI isn’t difficult to use, the class observed by CGE&Y didn’t prepare users adequately to actually perform pre-order, order, and M&R functions using the system. M&R functions are no longer included in the IMA-GUI application but are performed by a stand-alone application called CEMR. CGE&Y made no evaluation of CEMR training as part of the Relationship Management Evaluation.

The class wasn’t hands-on. It was a lecture class with handouts, and a teacher’s assistant with a laptop and a projector demonstrated the functionality of the IMA-GUI while the students merely observed. While this was somewhat effective, and might be a good class for supervisory personnel that will have little hands-on responsibility to attend, there was no way for any student to really get a feel for the system. And even though the instructors had a “demo” server that they could log into to show us most of the pre-order and order functionality, some of the functionality couldn’t be demonstrated. Some of it just didn’t work properly due to server and database configurations, and other functionality simply wasn’t available in the demo environment.

⁵⁸ CGE&Y Archive File: RME #5 – IMA-GUI and UNE-P Training Class Material

An example of system functionality not available in the demo environment was M&R. While the instructors were able to demonstrate such things as checking a line's status and pulling up a circuit history, functionality such as opening a trouble report simply isn't available except in the "live" environment. M&R functions are no longer included in the IMA-GUI application but are performed by a stand-alone application called CEMR. CGE&Y made no evaluation of CEMR training as part of the Relationship Management Evaluation.

The class handouts were largely comprised of screen shots of the IMA-GUI system. They didn't contain much real information, although they did provide plenty of room for note taking by the student. Many of the screen shots, especially in the M&R area, were virtually unreadable. Since much of the M&R functionality couldn't be demonstrated, this was a critical oversight.

During the class, the instructors imparted various tips and business rules for using the IMA-GUI that are not documented anywhere in the user guide or any of the online resources. When class participants asked the instructors if these points were going to make it into the IMA documentation, the instructors took notes of these points and promised to pass them along. There was not any formalized process in place for doing this, nor was there any follow-up to indicate that the instructor's notes were being acted on by the IMA development and documentation staff.

CGE&Y attended two of Qwest's new classes in the spring of 2001: IMA-GUI "Hands-On" and UNE-P POTS. Both of these classes were held in Denver, Colorado.

The IMA-GUI "Hands-On" class was a vast improvement over what Qwest now calls the IMA "Classic" course. Aside from some minor logistical problems, the class was very well presented. This particular class was attended by IMA users ranging from very experienced to those with no experience at all. The class proceeded from a general overview of the IMA system and network, including help desk and other support functions and telephone numbers, to a hands-on walk-through of the system administration, pre-order, order, and post-order functions of IMA-GUI. IMA-GUI M&R was not covered in this class because Qwest was in the process of transitioning to the Customer Electronic Maintenance and Repair (CEMR) system for CLEC maintenance and repair.

The instructors were very knowledgeable and answered all questions to the best of their ability. Instructors wrote down all questions they were not able to answer, and researched the answers on breaks and after the class. The instructors are not yet completely familiar with all of the courses they are required to teach, so they are often forced to consult with product subject matter experts in order to fully answer students' questions.

The majority of questions asked by participants, however, were related to business rules and Interconnection Service Center (ISC) processes and didn't necessarily have anything to do with the IMA-GUI system. Many other questions stemmed from some participants' lack of understanding of Local Service Ordering Guidelines (LSOG) fields and business rules, and likewise weren't related to IMA-GUI.

The training system created for this class was usable but contained some shortcomings. For example, since the system doesn't fully mirror the production environment, the student is not able to submit an order and receive a FOC. Likewise, most post-order functionality was not available to class participants. Finally, participants of the class experienced several system failures, most often when several students tried to submit the same transaction at the same time. This action resulted in their workstations locking up, and students were forced to completely shut down their browsers, log back into IMA, and get back to where they were. In some instances this wasted quite a bit of class time.

The UNE-P POTS class gave a basic overview of the UNE-P POTS product, some of the business rules associated with it, and a walk-through of the process used to order it. It was originally scheduled to be a half-day class, but was expanded to a full day in order to show those not familiar with IMA-GUI how to order it using that system. Those already familiar with IMA-GUI were free to leave the class when this section began. The class was informative, although it gave far more generic information about IMA-GUI ordering than specific information about the UNE-P POTS product. CGE&Y felt that the class material should either be enriched or else folded into a more comprehensive UNE-P class.

5.3.5 Results

Qwest's new CLEC training catalog, rolled out in February 2001, is a vast improvement from what preceded it and has been found to satisfy nearly all objectives set forth in the Arizona 271 MTP and TSD. Qwest has begun offering a full catalog of products, systems and business process training that covers most needs of the CLEC community. A look at the following table, copied from the Qwest wholesale website, gives an indication of the scope of Qwest's new CLEC training program:

Instructor-Led Training					
Title	Tuition	Duration	Start Date	End Date	City
ASR LIS Trunking	No charge	1 day	4/24/01	4/24/01	Minneapolis
			5/24/01	5/24/01	Salt Lake City
			6/21/01	6/21/01	Seattle
			6/28/01	6/28/01	Denver
ASR Private Line	No charge	1 day	4/25/01	4/25/01	Minneapolis
			5/23/01	5/23/01	Salt Lake City
			6/20/01	6/20/01	Seattle
			6/27/01	6/27/01	Denver

Instructor-Led Training					
Title	Tuition	Duration	Start Date	End Date	City
ASR Switched Access	No charge	1 day	4/26/01	4/26/01	Minneapolis
			5/22/01	5/22/01	Salt Lake City
			6/19/01	6/19/01	Seattle
			6/26/01	6/26/01	Denver
ASR Wireless Customers	No charge	2 days	5/17/01	5/18/01	Seattle
			5/30/01	5/31/01	Denver
Centrex	No charge	2 days	5/23/01	5/24/01	Minneapolis
IMA "Hands On"	No charge	1 day	4/23/01	4/23/01	Denver
			4/24/01	4/24/01	Denver
			5/22/01	5/22/01	Denver
			5/23/01	5/23/01	Denver
			6/07/01	6/07/01	Denver
			6/19/01	6/19/01	Denver
IMA "Classic"	No charge	1 day	6/05/01	6/05/01	Seattle
			6/12/01	6/12/01	Minneapolis
IMA Directory Listing	No charge	1 1/2 days	5/08/01	5/09/01	Minneapolis
			6/20/01	6/21/01	Denver
IMA Release 7.0	No charge	3 hours	4/06/01	4/06/01	Denver
			4/10/01	4/10/01	Audio Conference
			4/17/01	4/17/01	Audio Conference
LNP	No charge	1/2 day	4/27/01	4/27/01	Denver
			6/15/01	6/15/01	Denver
POTS Product Overview	No charge	1 day	6/27/01	6/27/01	Denver
POTS Resale	No charge	1 day	3/21/01	3/21/01	Denver
			6/28/01	6/28/01	Denver
Qwest 101	No charge	3 days	6/5/01	6/7/01	Denver
UBL	No charge	2 days	4/25/01	4/26/01	Denver
			6/13/01	6/14/01	Denver
UNE-P POTS	No charge	1 day	4/20/01	4/20/01	Denver
			6/29/01	6/29/01	Denver

These courses are still in their infancy and will probably need to be revised and possibly expanded. With student feedback it is expected that these courses will be streamlined and focused over time.

Results of the Training evaluation are further detailed in the table that follows:

TSD Objective and Section Reference	Objective Satisfied?	Source	Comments
1) Is there a process for obtaining CLEC input for the training? If so, is the process clearly written and has it been adequately communicated to the CLECs? (TSD Section 6.4.3.2)	Y	http://www.qwest.com/wholesale/training/feedback.html	CLECs can make requests at any time to their account management teams for different types of training, additional training, or enhancements to existing training.
2) Does the Qwest training available to CLECs adequately address the CLECs' need for product training? (TSD Section 6.4.3.2)	Y	N/A	Qwest began offering a full compliment of product-specific courses beginning in February 2001. While CGE&Y only had the opportunity to review one of these courses, feedback from CLECs has been very positive. With student feedback it is expected that these courses will be streamlined and focused over time.
3) Does the Qwest training balance the needs of both new and experienced users of the IMA-GUI? (TSD Section 6.4.3.2)	Y	N/A	The training is aimed at the inexperienced user. Instructors are provided the flexibility, and are normally very willing, to address a variety of topics not in the curriculum.
4) Does Qwest provide an adequate means for CLECs to provide feedback on their experience of CLEC training? If so are the processes for evaluating CLEC feedback properly documented? (TSD Section 6.4.3.2)	Y	http://www.qwest.com/wholesale/training/feedback.html	Course evaluation forms are distributed at the end of every class asking the student to rate the course, instructor, material, environment, and equipment, and provide any other feedback on the course that the student wishes. There is also a form on the website at the URL listed at left.
6) Were training schedules and documentation readily available? If yes, in what formats were the schedules and documentation available? If no, what steps were needed to obtain the necessary documentation? (TSD Section 6.4.3.2)	Y	http://www.qwest.com/wholesale/training/coursecatalog.html	Training schedules are provided on a web page that can be accessed from the wholesale training home page. Documentation is also available on a web page that can be accessed from the wholesale training home page.
7) Was the documentation readable and easy to understand? (TSD Section 6.4.3.2)	Y	http://www.qwest.com/wholesale/training/coursecatalog.html	The documentation examined by CGE&Y was clearly written and would be easily understood by most readers.
8) Was the documentation comprehensive? What type of documentation was provided (what areas are covered)? (TSD Section 6.4.3.2)	Y	http://www.qwest.com/wholesale/training/coursecatalog.html	Documentation examined by CGE&Y was found to be comprehensive. Documentation included IMA Training Guide/Class Companion, the IMA User Guide, and the IMA Administrator's Guide.
9) Was the frequency of training adequate? (TSD Section 6.4.3.2)	Y	http://www.qwest.com/wholesale/training/course_schedule.html	Classes on most subjects are given at least once per month. More popular classes, such as the IMA "Hands-On" class, are given several times per month.

TSD Objective and Section Reference	Objective Satisfied?	Source	Comments
		hed_reg.html	
10) Was the training information timely and up-to-date? (TSD Section 6.4.3.2)	Y	N/A	Classes on new products are developed at the same time the products are. Classes for new releases of IMA are held prior to the release, although such classes are not hands-on.
11) Training was provided at reasonable cost to CLECs (TSD Section 6.4.3.2)	Y	http://www.qwest.com/wholesale/training/course_scheduled_reg.html	Regularly scheduled training held at Qwest locations was free. If CLECs chose to send personnel from out of the area, the cost associated would include air fare, lodging and meals for all travelers. When CLECs require that Qwest provide classes at their sites, the CLEC must pay for one or two instructors to fly to the site, and pay for lodging if applicable.
12) Were contact names and numbers provided during the training class in the event there were follow-up questions about the training programs? If so, were the contacts able to provide the assistance needed? Additionally, were the answers direct and complete or did significant effort have to be expended to answer questions? (TSD Section 6.4.3.2)	Y	N/A	The IMA instructors provided business cards with their contact information in the event of further questions after the class. There were no reported incidents where a training issue required clarification and the instructor was unable to provide it.
13) Are the processes for monitoring Qwest instructor performance documented? (TSD Section 6.4.3.2)	N/A	N/A	Qwest's internal methods for evaluating instructor performance were not examined by CGE&Y. An examination of Qwest's internal procedures for instructor evaluation are outside the scope of this evaluation.
14) Do CLECs have proper input into the evaluation of the instructors? (TSD Section 6.4.3.2)	Y	http://www.qwest.com/wholesale/training/feedback.html	CLECs are provided with instructor evaluation forms at the conclusion of every class. Additionally, CLECs are free to submit evaluations to Qwest through their account management team.
15) Does Qwest have a structured method for evaluating instructor performance? (TSD Section 6.4.3.2)	Y	N/A	An instructor evaluation is part of the course evaluation form distributed by the instructors at the end of each class. Qwest's internal methods for evaluating instructor performance were not examined by CGE&Y.
16) Did the Pseudo-CLEC personnel that received the IMA-GUI training believe that it was effective in preparing them to use	Y- with exception	N/A	The IMA-GUI "Hands-On" class was effective in training users on the use of the system.

TSD Objective and Section Reference	Objective Satisfied?	Source	Comments
the IMA-GUI interface? (TSD Section 6.4.3.2)			Exceptions: <ul style="list-style-type: none"> ➤ Pseudo-CLEC personnel attended the IMA “Classic” (i.e., non-hands-on) course. Since the class was not hands-on, the users from the Pseudo-CLEC were not able to practice different ordering scenarios. User feedback of the course ranged from “not useful” to “somewhat useful.” This class is acceptable for those users not requiring an in-depth IMA-GUI class, such as supervisory personnel.

5.4 Interface Development - EDI/IMA-GUI

This evaluation examined the documentation, specifications and consultative assistance provided by Qwest to CLECs for use in building an EDI interface or installing the IMA-GUI interface. An evaluation of the test environment that Qwest provides CLECs for testing their EDI and EB-TA interfaces was also included. Additionally, HPC evaluated a CLEC’s ability to integrate pre-order data elements into order transactions.

Per the MTP Section 7.2 and the TSD Section 6.1, the interface development evaluation included the following activities:

- Review and evaluation of all available documentation⁵⁹
- Observation and evaluation of Qwest processes and procedures supporting CLEC EDI, EB-TA & Billing interface development and implementation efforts
- Review and evaluation of Qwest’s EDI cooperative testing procedures and its testing environments

EDI Development Process

The EDI development process used by Qwest is well documented and followed in practice. The process, drawn from Qwest’s EDI Implementation Guide (http://www.uswest.com/wholesale/ima/edi/downloads/EDI_ImplementationGuidelin_010301.doc), consists of the following:

❖ Project Initiation Discussions

According to the Qwest EDI Implementation Guide, the purpose of the these discussions is to “to provide both the co-provider and Qwest with a clear understanding of the objectives during the implementation of EDI trading capabilities. These discussions also provide a forum for communicating a general description of the

⁵⁹ <http://www.qwest.com/wholesale/ima/edi/index.html> and HPC EDI Report

interface and an overview of the implementation process, for identifying and distributing applicable documentation, and for determining the specific EDI transactions to be implemented.”

Qwest and the CLEC hold an initial meeting, at which the following activities take place:

- Give general overview of the Qwest IMA-EDI interface
- Review Qwest data transport requirements
- Introduce team members and identify roles and responsibilities
- Identify the objectives and scope of the implementation
- Identify implementation timeframes and the EDI interface release against which implementation will be performed
- Review the EDI Implementation Guide and implementation processes
- Review documentation
- Establish administrative/housekeeping guidelines

❖ Project Plan Development and Agreement

The next phase in the process is the joint creation and negotiation of a project plan. The respective Qwest and CLEC project managers are responsible for adhering to this plan once it has been put into effect, and any changes to it must be jointly discussed, negotiated, and agreed to following the same process as the initial negotiation.

The execution of a project plan is a prerequisite to the beginning of the development effort.

The project plan includes the following phases, at a minimum:

- Initiation discussions
- Requirements review
- Circuit installation/configuration
- Test data development
- Interoperability testing
- Certification testing
- Production turn-up

According to Qwest, a typical project plan will be created for one to three products. If a CLEC wishes to implement several products, Qwest suggests that the CLEC start with the most important ones based on its business plan. The other products will be implemented in a phased approach, each receiving its own project plan.

Throughout the life of each project, there will be regular (typically weekly) conference calls between Qwest and the CLEC to monitor and discuss the progress of the project.

❖ Requirements Review

The first phase to occur after the project plan is implemented is the Requirements Review. According to Qwest, the purpose of the review is to assist the CLEC in:

- Developing and defining the business processes and procedures necessary to support the use of the IMA-EDI interface
- Developing the appropriate documentation (i.e., methods and procedures) necessary to support the use of the IMA-EDI interface by co-provider personnel
- Performing any necessary database gap analysis for the purpose of ensuring that all required, optional and conditional data fields within the EDI transactions can be successfully populated
- Identifying appropriate data values
- Defining co-provider internal business processes

Also included in the Requirements Review is a review of Qwest's EDI requirements, contained in the EDI Disclosure Document (<http://www.uswest.com/disclosures>). The "I-Charts," located within the EDI Disclosure Document, contain detailed developer-level EDI requirements on a product-by-product basis.

The EDI Disclosure Document contains a chapter for each product. Each chapter contains the following sections:

- Business Description: provides a general overview of the product, outlines dependencies and constraints, and describes the OBF forms to be used when ordering a particular product
- Business Model: describes the transactions that comprise the complete transaction cycle for a particular product and presents the sequence in which transactions will be exchanged
- Trading Partner Access Information: outlines data values for the ISA and GS segments, describes delimiter use, and indicates the standards version upon which a transaction is based
- Mapping Examples: defines the syntax and structure of the EDI transaction set
- Data Dictionary: offers a description of the individual EDI segments and elements that are contained within a particular transaction set
- Appendices: contain the developer worksheets defining the business rules and data values

CLECs are also provided with Developer Worksheets, which go hand-in-hand with the EDI Disclosure Document. According to Qwest, "the Qwest Developer Worksheets provide the co-provider with the Qwest business rules to allow the co-provider to correctly generate Qwest EDI requests. The Developer Worksheets summarize the business rules for each field in the interface by order form. In the Developer Worksheets, all OBF forms used for a product are described with the rules regarding how each field is used. These rules include the usage for the field, the business rules, the field length, the field characteristics, and the valid values."

During the Requirements Review, any questions the CLEC has regarding Qwest's EDI requirements will be captured by Qwest on an issues log and reviewed at the next regularly scheduled conference call.

❖ Circuit Installation

Before EDI connectivity can be established, the CLEC must order a dedicated circuit to connect to Qwest's data center either in Denver, Colorado, or Omaha, Nebraska. The bandwidth requirements for this circuit are dependent upon the projected number of concurrent users the CLEC expects to have interfacing with the system. CLECs have the option of ordering a T-1, fractional T-1, or 56k dial-up line.

One potential roadblock arises at the next point in the process. Again, to quote from Qwest's EDI Implementation Guide:

"The co-provider's circuit will need to be connected to the Qwest router located at one of the two data centers. This may require an internal circuit order to be issued, and provisioning can take approximately 30 to 45 days from the date the request is correctly submitted. The internal order will not be placed until a Qwest circuit ID, Qwest order number, and a due date are provided by the co-provider to the appropriate Qwest connectivity contact. This information identifies the terminating point of the Co-Provider's incoming circuit."

This means that it will take Qwest 30 to 45 days to complete internal work after the CLEC receives a FOC/Design Layout Request (DLR) for the dedicated circuit into the data center and submits the information to Qwest. If a CLEC does not begin this process near the beginning of the EDI development process, testing could very well be delayed until the connectivity work is completed.

❖ Test Data Development

To prepare for interoperability testing, the CLEC must prepare test scenarios and test cases and submit them to Qwest in the form of a Scenario Summary for review. Qwest's Scenario Summary and scenario order/pre-order templates are used by the CLEC to outline all the scenarios to be tested along with their expected responses and the actual test scenario data. The summary should contain the actual data the CLEC intends to use on the EDI transaction.

One important note must be made here. Although these orders do not pass through to Qwest's production environment and will not be provisioned, Qwest requires the use of real customer data in these test scenarios.

According to Qwest's documentation, the scenario review process for interoperability testing will occur as follows:

1. The CLEC generates the Scenario Summary, which is the set of scenarios it intends to test and each scenario's anticipated responses. The CLEC also generates each individual test scenario as it is outlined on the Scenario Summary.
2. Qwest reviews the Scenario Summary and the individual test scenarios according to the guidelines established in the Scenario Review Process section of the EDI Implementation Guide.
3. The CLEC fixes the Scenario Summary and/or scenarios based upon any comments and resubmits them for review.
4. Tasks 2 and 3 repeat until the scenarios are correct.
5. The CLEC sends copies of the final version of the scenarios to Qwest. This version of the scenarios should match the EDI transaction to be sent.

Qwest's review of the Scenario Summary includes the following:

- The address will be validated
- The AN will be validated
- The BAN will be validated
- The order will be reviewed to ensure that all necessary fields are populated correctly. This includes verifying that all business rules, as outlined in the appropriate release-specific Disclosure Document's Developer Worksheets, were followed
- USOCs will be reviewed to ensure that they are formatted correctly

❖ Interoperability Testing

Interoperability testing occurs once connectivity has been established and verification has been made that gateway software is operational. Interoperability testing is used to validate the results of EDI development; its purpose is to ensure that a CLEC can successfully and correctly generate EDI transactions, and receive and correctly process the EDI responses it receives from Qwest systems.

As previously stated, interoperability testing requires the use of valid data. All interoperability orders are subjected to the same edits as a production order. Therefore, in order to submit successful orders during interoperability testing, valid account data must be supplied and used by the CLEC.

Once certain entrance criteria are satisfied (e.g., test summary review completed, connectivity established, and gateway software tested), interoperability testing can begin. The interoperability test process is executed as follows:

- Qwest and the CLEC agree on a time period for testing
- During this time on testing days, the interoperability test environment will be available for interoperability testing
- The CLEC sends test 850 and 860 transactions

- At the end of the testing period each testing day, a testing call will be established. The testing call provides an opportunity for CLEC and Qwest testing representatives to interact and discuss the testing for the day.
- Qwest generates test 855 and 865 transactions.

Interoperability testing is considered complete when the following criteria have been met:

- Completed all agreed upon interoperability test scenarios
- Demonstrated ability of the CLEC to send valid 850 and 860 transactions
- Demonstrated ability of the CLEC to receive 997, 855 and 865 transactions as identified in the interoperability Scenario Summary
- Demonstrated ability of the CLEC to generate 997 transactions in response to Qwest 855 and 865 transactions, as identified in the interoperability scenario summary
- Demonstrated ability of the CLEC to notify the end user of responses generated by Qwest, to indicate whether the sent transaction was successfully processed
- Demonstrated ability of the CLEC to detect transaction processing failure within any component of the CLEC EDI environment

❖ Certification Testing

Certification testing is performed after the completion of interoperability testing. According to Qwest, “the certification testing process is designed to validate the ability of the co-provider to transmit EDI data that completely meets X12 standards definitions and complies with all Qwest business rules. Certification testing consists of the controlled submission of true account information to the Qwest production environment. Qwest treats these orders as production orders. Qwest and the co-provider use certification testing results to determine operational readiness.”

As with interoperability testing, a Scenario Summary review is conducted prior to beginning certification testing.

The orders involved in certification testing are considered live orders. They pass into Qwest’s production systems, and are provisioned and installed.

The testing proceeds as follows, per the EDI Implementation Guide:

- Qwest and the CLEC agree on a time period for testing.
- During this time on testing days, the certification test environment will be available for certification testing.
- The CLEC sends test 850 and 860 transactions, which have been reviewed by Qwest.
- Qwest monitors the test environment during the testing period, processes any received orders appropriately, and sends all appropriate responses.

- At the end of the testing period each testing day, a testing call will be established. The testing call provides an opportunity for CLEC and Qwest testing representatives to interact and discuss the testing for the day.

Certification testing is considered complete when the following criteria have been met:

- Completed all agreed upon interoperability test scenarios
- Demonstrated ability of the CLEC to send valid 850 and 860 transactions
- Demonstrated ability of the CLEC to receive 997, 855 and 865 transactions as identified in the interoperability Scenario Summary
- Demonstrated ability of the CLEC to generate 997 transactions in response to Qwest 855 and 865 transactions, as identified in the interoperability scenario summary
- Demonstrated ability of the CLEC to notify the end user of responses generated by Qwest, to indicate whether the sent transaction was successfully processed
- Demonstrated ability of the CLEC to detect transaction processing failure within any component of the CLEC EDI environment

Migration and Recertification

When a new EDI release is implemented, CLECs have six months during which to migrate to the new release before the old one is retired.

Currently, CLECs are required to re-accomplish certification testing each time a new version is released. This is accomplished on a product-by-product basis; if a particular product's business and transaction rules have not changed in a new release, recertification is not required.

The CLEC community has entered CR# 4661383 to request that it not be required to recertify for every new EDI release. Qwest has stated that if a CLEC is migrating from one version to the next without any new products or services, recertification testing is optional. If new products are involved, the CLEC must complete recertification on the new products only.

For further concerns regarding the test environment issue, please see Section 5.4.2, "Interviews" of this document.

5.4.1 Questionnaires

Questionnaires regarding Qwest interface development⁶⁰ were sent to all of the CLECs whose names appear on the CICMP attendance sheets since the beginning of the process. Formal responses were received from only six CLECs, although informal responses were received via telephone calls and e-mails throughout the evaluation process.

⁶⁰ CGE&H Archive File: RME #6 – CLEC Questionnaire RE: Qwest Interface Development

Questionnaire responses generally agreed with the results of the overall evaluation. Specifically, participants felt that the process is well defined, more than adequately documented, well administered, and the technical specialists involved are very knowledgeable and helpful. The largest and most consistent complaint about the process is the lack of a testing environment that mirrors production systems.

Additional interview comments are summarized below:

- ❑ Many respondents stated that because Qwest deviates from the LSOG and, in their opinion, does not fully document the business rules associated with those deviations, creating a seamless EDI interface with Qwest is quite difficult.
- ❑ Some respondents complained that the information returned by Qwest's OSS as a result of EDI pre-order transactions is not in a format that allows easy integration into the order transactions. One example cited is that end-user address information obtained from the CSR must be parsed before being usable in an LSR transaction.
- ❑ Because the current Qwest testing process requires human monitoring and intervention, CLECs are limited in the time of day and days of the week during which they can submit test transactions.
- ❑ Some respondents felt that the project plan process was too rigid and bureaucratic, not responding smoothly enough to changes.
- ❑ All respondents felt that Qwest's EDI design documentation was not released far enough in advance for them to adequately code their own systems to accommodate Qwest's changes. This issue is discussed at length in Section 5.6, "Qwest Co-Provider Industry Change Management Process" of this document.
- ❑ Some of those that responded reiterated their desire to not have to recertify with Qwest after every new release. This is, again, related to the lack of an automated test environment and is discussed above in Section 5.4, "Interface Development – EDI/IMA-GUI" of this document.

5.4.2 Interviews

No formal interviews were conducted with Qwest EDI development personnel, except in the context of the CICMP process.

CGE&Y conducted interviews with personnel from a participating CLEC responsible for EDI development and testing. Those interviewed felt that Qwest's EDI testing process should become the model that all other RBOCs follow. They felt that Qwest's testing personnel were very helpful, knowledgeable, and willing to work with the CLECs. Further, the participating CLEC's perception of the development process supported CGE&Y's finding regarding the timeliness of the release of EDI design documentation – that final documentation is not released early enough before a system change. This was the subject of AZIWO1078, discussed in Section 5.5 of this report. The CLEC

personnel are optimistic that the redesign of Qwest's CMP will alleviate this issue.

5.4.3 Documentation

The documentation review for EDI/interface development included the following documents:

Document Name/Purpose	Web Location
EDI Implementation Guidelines	http://www.uswest.com/wholesale/ima/edi/downloads/EDI_ImplementationGuidelin_010301.doc
IMA/EDI Recertification Document	http://www.uswest.com/wholesale/ima/edi/downloads/EDIRecertification.doc
EDI Disclosure Document	http://www.uswest.com/disclosures/netdisclosure409.html
IMA 6.0 Release Notes	http://www.uswest.com/wholesale/ima/downloads/RN_Description6_121400.pdf
Release 5.0 to 6.0 Change Summary	http://www.uswest.com/disclosures/netdisclosure409/changeSummary5-6.pdf
12 Release Schedule	http://www.uswest.com/wholesale/cicmp/downloads/TargRelSched070700.ppt
IMA Target Release Lifecycle	http://www.uswest.com/wholesale/cicmp/downloads/lifecycles070700.ppt

No major problems were noted with Qwest's EDI-related documentation since the redesign of the website during the summer of 2000. Prior to that there were navigation problems with the website, and certain documents, particularly the EDI Disclosure Document, were impossible to find if their locations were not known. These problems have all been addressed. The redesign of this portion of the Qwest website has made it much easier to navigate and find required documentation.

Pseudo-CLEC Experience

The summary below is based upon the following final reports of the IMA-GUI and the EDI connection, development, and certification processes developed by HPC:

- “EDI Connectivity Report for 271 Test Generator” – Version 6.0
- “IMA EDI 6.0 Migration Report for 271 Test Generator” – Version 2.0
- “IMA-GUI Interface Report for 271 Test Generator” – Version 3.0

“EB-TA Specification Report for 271 Test Generator” – Version 2.0
“12-Step Process Report for 271 Test Generator” – Final Version, Supplement III (Billing)
“PreOrder to Order Summary Report for 271 Test Generator” – Version 2.0

❖ EDI

The focus of the EDI Connectivity Testing assessment was to evaluate the quality of processes, documented specifications and technical support provided for CLECs to understand and implement an IMA-EDI gateway to the Qwest OSS environment. The testing assessment was comprised of three primary phases: a review of the Qwest business rules and transaction standards, construction of an IMA-EDI gateway interface and validation testing of the established gateway. The process for implementing the gateway was outlined by the Qwest IMA-EDI Implementation Guidelines document. The IMA-EDI Implementation Guidelines document outlines the schedule, requirements, tests, Qwest support agreements and necessary steps for deploying a successful gateway interface to the Qwest OSS. The process described by this document was used as the basis for conducting the EDI Connectivity Testing assessment.

Overall, 86 test scenarios were executed in order to validate the established interface. For organizational purposes, these scenarios were grouped into three transaction type arenas: pre-order, order and post-order. In order to successfully complete the validation/testing phase of the EDI Connectivity Testing assessment, all scenarios required a confirmed completion of all the interoperability and certification test's exit criteria. Untested scenarios classified as "Not Applicable" were reviewed and approved by the joint Qwest and HPC EDI implementation team.

HPC followed the Qwest recommended testing schedule for CLECs. The interoperability test was completed over the course of 35 weeks. Testing was conducted two hours a day, five days a week. Testing issues that prevented the successful completion of a test scenario were documented and submitted as IWOs using the CGE&Y IWO template. The IWO template provided a standard for detailing the specific testing issues and error results. Once Qwest determined that the issue did require a change in documentation, software or processes, the issue was translated into a Qwest internal CR. The CRs were then used internally by Qwest to determine the necessary updates to Qwest documentation, software or processes.

HPC was able to complete all of the tests for many of the scenarios requiring CRs by executing a work-around during the testing cycle. Work-arounds were temporary fixes associated with a specific scenario allowing for the full completion of the exercising tests. HPC and Qwest jointly developed work-arounds that required temporary changes to the processes, test data, test scripts and/or the implementation software for the IMA-EDI Gateway. Once the CRs

associated with these work-arounds were completed and the necessary fixes were made, Qwest sent a notification to the HPC testing group requesting that specific scenarios relating to the submitted CRs be retested using the original testing procedures.

Scenarios with unresolved CRs maintained an "open/incomplete" status. Once all associated Qwest CRs were resolved, the scenario was to be retested, and upon successful completion of all tests, the scenario would assume a "closed/complete" status. Qwest did not provide a defined process or schedule for ensuring the resolution of submitted CRs. (AZIWO1174) Qwest assured HPC that all open CRs would be resolved within the next release of EDI software, version 7.0, tentatively scheduled for release June 1, 2001. Once the version 7.0 EDI software was released, HPC retested the "open" scenarios. As a result of the IWO, Qwest verified that there were no "open" Pseudo-CLEC CRs in version 7.0. As a result, the IWO was closed.

During the validation/testing phase, HPC submitted ten IWOs for unresolved IMA-EDI Qwest software errors. Qwest acknowledged all of the submitted IWOs as CRs and developed the necessary modifications to resolve the issues. Seventy-five of the eighty-six tested scenarios were completed successfully; the remaining eleven scenarios maintain an open status.

To highlight the CLEC experience with Qwest, key observations made during HPC's engagement with Qwest are outlined below:

- The EDI connectivity process described in the Qwest IMA-EDI Implementation Guidelines provided a very comprehensive framework for implementing the IMA-EDI gateway interface
- Qwest's staff was very knowledgeable in the Qwest IMA-EDI methodology and requirements
- There was no clearly identified process for communicating software changes that were outside of a scheduled IMA software release. These updates were implemented without a specification identifying the specific modifications
- There was no clearly defined process or schedule given for closing CRs associated with scenarios after the completion of the EDI connectivity process
- Qwest did not provide a test bed for exercising CLEC-side IMA-EDI transaction components. HPC was unable to properly exercise test harness developments prior to entering interoperability and certification test phases.
- Deviations of the Qwest business rules and transaction standards from the LSOG3 standard were not thoroughly documented
- The Qwest product certification process did not cover parallel product certifications. A process modification was necessary in order for HPC to certify nine products in parallel. The Qwest product certification process is constructed for handling product certifications serially.

Further observations are summarized in the following paragraphs.

Qwest Deviations from Industry Standards

Overall, the Qwest business rules and transaction standards remained relatively consistent with industry standards. However, there were some issues uncovered during the EDI Connectivity Testing that identified some variances between the Qwest standards and industry standards. The following points give an overview of the specific issues.

- If mandatory data was missing in the Qwest outbound mappings, Qwest would send syntactically incorrect EDI data. Qwest assumed all mandatory data would be present, and only mapped to the expected data. There appeared to be no "if-then-else" logic to verify that the mandatory data were present.
- A few minor mapping errors were identified in Qwest's outbound mapping.
- In some cases, Qwest did not re-send data transactions that required a repeated response. For example, in the CSR query transaction, a response transaction containing multiple matches only received one REFNUM transaction response. For this query transaction the REFNUM should have been sent multiple times. Because of this variance from the industry standards, HPC was not able to select from multiple return matches in order to execute another CSR query to retrieve an exact match.
- HPC found that in some cases expected data was not returned in the response.
- HPC found in one instance, data submitted in an inquiry was not returned as expected in the response transaction.
- HPC found that in some cases more than the expected data was returned.
- HPC found that in one instance additional data that was not required by industry standards was needed in the Query in order to get a valid response.
- Discrepancies between field usage in the Qwest business rules and the data mapping EDI were identified. For example, in one instance, data required by the EDI was specified as "Not Used" in the business rules.
- HPC found in one instance that data returned in a field did not match the business rule description for that field.

EDI Connectivity Issues

The Qwest EDI Connectivity processes and gateway specifications were well documented. The level of detail and specificity included in the Qwest EDI Implementation Guidelines and Disclosure Document provided HPC with a step-by-step guide in undergoing the EDI Connectivity process and configuring the gateway interface. The Qwest EDI Implementation Guidelines outlined the project initiation and development phases, as well as the EDI Connectivity project schedule, testing requirements and change management process for software upgrades. Detailed information on the EDI data mapping

requirements, transaction process descriptions, routing specifications, business rules and networking standards was provided in the Qwest Disclosure Document. The Disclosure Document also included information on the specific deviations of the Qwest business rules from industry standards; however, HPC determined that these deviations were not thoroughly represented. Overall, HPC found the Qwest provided documentation to be very thorough and beneficial in explaining and facilitating the entire EDI Connectivity process.

Qwest provided timely and accurate support throughout the course of the EDI Connectivity testing assessment project. Qwest's EDI staff was very knowledgeable in the IMA-EDI methodology and requirements, and they were very involved in facilitating the overall EDI Connectivity process. The staff assisted in creating the project schedule, conducted meetings and developed meeting minutes. The meetings with Qwest were conducted on a weekly basis to focus on the project schedule, EDI business requirements, technical requirements and testing issues. During the weekly meetings, Qwest was able to clearly articulate the Qwest business and technical requirements for the project and provide detailed explanations as needed. Qwest was also willing to research specific issues which could not be resolved during the meetings, and they were able to provide answers in a thorough and timely fashion. HPC found the level of support provided by Qwest to be very helpful in ensuring the success and timely completion of the EDI Connectivity process.

HPC identified the following process issues while undergoing EDI Certification:

- The Qwest process did not appear to have the flexibility to handle the parallel certification of multiple products. The Qwest certification testing process requires that co-providers undergo scenario testing for products in a serial fashion. Serial testing involves testing products on both pre-order and order scenarios on a one by one basis; the product being tested must be completely certified before testing the next product. HPC acted as a Pseudo-CLEC taking an aggressive approach to setting up the EDI gateway interface and to quickly certifying many products and services to offer to their customers. HPC wanted to set up a total of nine products and services. Undergoing this multiple product certification using the Qwest product certification process would have taken an unacceptable amount of time. In order to accomplish the aggressive product certification plan that HPC wanted to execute, it was necessary that HPC deviate from the Qwest defined certification process to conduct certification testing for the multiple products in parallel. The pre-order scenarios were executed for every product, and then the order scenarios were executed for all the products. This approach gave HPC the flexibility to set up multiple products in a timely manner without experiencing the potential delays caused by a pending product certification completion. Qwest has since put procedures into place to rectify this deficiency.

- The Qwest Connectivity process did not include a clearly defined protocol or schedule for closing open CRs associated with scenarios after the completion of the EDI Connectivity process. Although Qwest has committed to resolving all open CRs associated with HPC's 271 testing effort in their next release of the EDI software, Release 7.0, there appears to be no defined schedule that identifies the specific timeframes in which co-providers could expect resolution of opened CRs. There was also no standard co-provider notification list that specified which co-providers would be notified of the specific CR fixes. It appears as if some of the CR fixes could be completed at any point after the EDI Connectivity process, and co-providers would not necessarily be made aware of the specific CRs that have been resolved. Release notes do not always indicate all CR fixes.
- There was no clearly defined process for communicating software changes that were implemented outside of the scheduled EDI software point releases (6.0, 6.1, etc.). Between-point release modifications were implemented without a specification identifying the specific changes. Often times "between-release" CRs were resolved without a direct communication from Qwest to HPC. (AZIWO1127) Qwest responded that it was taking internal steps to insure that the process is consistently followed. The IWO was closed.
- Qwest did not provide a test bed for exercising CLEC-side EDI transaction components. HPC was unable to properly exercise test harness developments prior to entering interoperability and certification test phases. The absence of a test environment including a test database required that HPC submit valid account data that was present in the Qwest legacy environment. This might cause significant setbacks for co-providers who did not possess their own account data. In order to complete product certification, the CLEC would have to possess account order data for every product being certified. If there were certain products for which the CLEC did not possess valid customer order information, the CLEC would have to delay testing until they attained a valid customer order for that particular product. The absence of a test bed also required that a Qwest EDI support agent monitor the co-provider by phone during interoperability and certification testing periods. Co-provider interoperability and certification testing was conducted two hours a day, five days a week. This gave HPC a very limited window to test its EDI gateway developments. (AZIWO1044) In response to the IWO, Qwest developed a Stand-Alone Test Environment (SATE) for use by CLECs during EDI certification. SATE was made available on August 1, 2001. The IWO was closed.

❖ IMA-GUI

Currently the IMA-GUI application must be accessed by one of two connection methods: dial-up or direct connect. The application itself is web-based and

requires a Netscape browser to run. The two connections are very common, and the configuration of the software on the personal computers (PCs) is standard for both methods.

Prior to using the dial-up method, SecurID cards were ordered through the account manager. Prior to using the direct connection method, the network addresses for each of the PCs were forwarded to Qwest for entry into a firewall access table.

Dial-Up Connection

Dial-up connection requires a modem, a phone line, a SecurID card, a user login, Netscape Navigator 3.01 or newer software (Netscape Communicator 4.08 or newer software could be used instead) and the Sun Microsystems JAVA Plug-In 1.2.2. This method for connection is slow and cumbersome. It is slow because the connection speeds are consistently around 26.4 kbps, which could be due to the line quality or the modem speed on Qwest's end. It is cumbersome because there are two logins: one to authenticate at Qwest's firewall and one to login to the IMA-GUI application.

Direct Connect Connection

Direct connect access requires that a dedicated line be installed connecting the CLEC and Qwest networks, a user login, Netscape Navigator 3.01 or newer software (Netscape Communicator 4.08 or newer software could be used instead) and the Sun Microsystems JAVA Plug-In 1.2.2. During the configuration of this connection, information is forwarded that is used to allow access through Qwest's firewall directly to the IMA-GUI application leaving only one login required.

This connection method is much faster and more reliable. This circuit was installed and configured to pass data at T1 speeds, which are around one megabit per second verses the dial-up running around 26 kbps per second. The T1 circuit has been stable during almost nine months of testing, with no reported outages.

Connectivity Issues

- The dial-up method using the SecurID card was outdated and cumbersome. Qwest addressed this issue by changing to a digital certificate instead of a SecurID card. A small CLEC could still use the inexpensive dial-up access, but now with the benefit of not requiring the additional login to authenticate.
- The SecurID passcode was not accepted when trying the dial-up method for connection. It was due to the card not being used within 30 days after receipt. The cards were reactivated after contacting Qwest's help desk.

- The IMA-GUI pre-order screens appeared to freeze or lock-up. The help desk was eventually able to determine that HPC was not clearing temporary files. These files were created by the IMA-GUI application during each session and eventually they affected the performance of the application. The documentation made no reference to this condition. These temporary files are not useful after a session is completed. HPC created a script that executed daily to delete these temporary files.

IMA 6.0 to 7.0 Upgrade Overview – Installation Issues

HPC closely followed the Qwest IMA 7.0 Connection Guide when upgrading the IMA-GUI from version 6.0 to 7.0. The Qwest documentation seemed to assume that the IMA-GUI was being installed on computers with no previous IMA-GUI installation. When attempting to install the 7.0 IMA-GUI on computers with 6.0 already installed, it was discovered that there were installation steps that were not included in the Connection Guide. In order to get consistent access to the Qwest IMA server, it was necessary to completely uninstall previous versions of Netscape 4.71 and Sun Microsystem's Java Developer's Kit 1.2.2 and then do a fresh installation of the software.

❖ EB-TA

The Pseudo-CLEC evaluated the Qwest documentation and references to technical specifications that provide the information and conditions for building the Qwest EB-TA interface and a review of the process required for a CLEC to develop an EB-TA interface.

The evaluation included a review of all the steps leading up to the completion of the Joint Implementation Agreement (JIA). There are additional steps required to build an EB-TA interface that were not within the scope of the Pseudo-CLEC's evaluation.

Process

A Qwest account manager was previously assigned to the Pseudo-CLEC and that account manager was contacted to arrange for a meeting or conference call. A list of the calls and coverage will be listed in the "Items and Activities Reviewed" section of this document.

The Pseudo-CLEC established that it was investigating the viability of building its own EB-TA interface and that the Pseudo-CLEC would require the documentation, process, contacts and assistance to accomplish that task.

A log noting responsibility for action items was developed. Additionally, based on the results of the first conference call, documents from Qwest arrived via e-mail. A question log was also developed, covering three categories: general for

questions pertaining to Qwest or Qwest procedures, questions pertaining to the JIA, and questions regarding the interface documents.

Substantial focus was placed upon the JIA. The JIA needs to be modified by the co-provider (CLEC) and as it is an agreement, the JIA needs to be in place before any actual interface work is undertaken. The JIA contains a wide range of information that has to be covered before the two companies can establish a working link. The JIA covers the process for the JIA, change control, business functions, communication protocol, security, performance, recovery procedures, testing, schedules, and twelve appendices.

Documentation

A review of the Qwest documentation found that it was sufficient in detailing the process a CLEC must follow in the development of an EB-TA interface, though some specific documentation issues, such as unclear terminology and processes, were noted.

Items and Activities Reviewed:

- Co-Provider Maintenance and Repair (JIA)
- Qwest Trouble Report Format Descriptions
- Qwest / Mediated Access (MEDIACC) Electronic Bonding Trouble Administration – Loop Maintenance Operations System (LMOS) to ANSI T1.227/228 Standard Attribute Mapping
- Qwest / MEDIACC Electronic Bonding Trouble Administration - WFA/C to ANSI T1.227/228 Standard Attribute Mapping

The results presented here contain tables listing the attributes for each area of review in the left hand column. In the header of the charts are listed the measure types for the attribute. Each field will contain letters from a corresponding key, that indicates:

S-Satisfactory

Un-Unsatisfactory with note reference

If the field is blank then it should be assumed that this field was not applicable. Some tables will be truncated to reflect only the applicable attributes.

Model Joint Implementation Agreement:

At the beginning of the negotiation process, Qwest provided the Pseudo-CLEC with a Model JIA. This Model JIA provided a framework for change control, business functions, communication protocol, security, performance, recovery procedures, testing, schedules, and twelve appendixes.

	Description	Examples	Detail	Clarity
Scope	S		S	S
Purpose	S		S	S
Process(es)	S	S	S	S
System(s)	S	S	S	S
Interface(s)	S	S	S	S
Interface Specifications	S	S	S	S
Maps (process)	S	S	S	S
Drawings	S			S
References	S	S	S	S
Expected Results	S	S	S	S
Organization (structure/format)	S			S
Responsibilities	S		S	S
Distribution	S		S	S
Exceptions	S		S	S
Schedule	S		S	S
Change process	S	S	S	S
Technical Mapping	S	S	S	S
Acronym/Abbreviation	S			

QWEST / MEDIACC Electronic Bonding Trouble Administration - LMOS to ANSI T1.227/228 Standard - Attribute Mapping:

This is not a stand-alone document. This document is the listing for the relationship between the ANSI documents T1.227 and T1.228 and the Qwest LMOS that is used for trouble reporting on residential and small business phone lines.

	Description	Examples	Detail	Clarity
Expected Results (character and field)	S	S	S	S
Organization (structure/format)	S			S
Technical Mapping	S		S	S
Acronym/Abbreviations	S			

QWEST / MEDIACC Electronic Bonding Trouble Administration - WFA/C to ANSI T1.227/228 Standard Attribute Mapping:

This is not a stand-alone document. This document is the listing for the relationship between the ANSI documents T1.227 and T1.228 and the Qwest Work Force Administration system used by Qwest for trouble reporting on private line services.

	Description	Examples	Detail	Clarity
Expected Results (character and field)	S	S	S	S
Organization (structure/format)	S			S
Technical Mapping	S		S	S

	Description	Examples	Detail	Clarity
Acronym/Abbreviations	S			

❖ Billing

One of the items of information requested from a CLEC on Qwest's "New Customer Questionnaire" is the Billing Information delivery method. It was determined by HPC that it should receive an electronic file for DUF, CRIS Bills (EDI transaction 811), and Loss & Completion Reports. This was requested by HPC on the questionnaire.

HPC notified the Qwest account manager that it wanted to set up the NDM connection and on March 21, 2000 HPC received the "Billmate Billing - Electronic Data Interchange - Customer Guide" from Qwest. This guide is included in this supplement as Appendix A. The Billmate information outlined the 811 EDI Transaction used for Electronic CRIS Billing information. HPC successfully tested DUF receipt on July 6, 2000, Loss & Completion Reports receipt started on July 18, 2000 and Electronic CRIS Bill receipt started on September 26, 2000.

The DUF files and the Loss & Completion reports are delivered daily Monday through Friday. The CRIS Bills are delivered after each of the monthly billing cycles (UNE-P, Resale, and Facilities). All information required for Qwest to log onto HPC's server and deliver the file is contained in the New Customer Questionnaire. HPC chose Network Data Mover (NDM) direct connect, as its preferred delivery method. Qwest delivered seven files each morning one DUF, three Loss and three Completions. The Loss and Completion files were broken down by product type UNE-P, Resale and Facility-Based.

HPC only noted one minor issue during DUF file delivery testing. The issue was that HPC requested an ASCII format and Qwest sent the file in a binary format. The corrected file was resent and HPC verified that it was readable.

❖ Pre-Order To Order Integration

HPC prepared the Pre-Order to Order Summary Report. This report documents the analysis used to determine if the data definitions (i.e., form, format, content, usage and meaning) between pre-ordering and ordering elements enable integration from pre-order transactions into order transactions without requiring translation, or reconfiguration of the data elements.

This report focused on combination of five products and three activities.

The five products reviewed were:

- POTS Resale
- UNE-P

- UNE-L Service
- UNE-Loop with LNP
- LNP

These products were reviewed with regard to one or more of the three activities listed below:

- Conversion As Is
- Conversion As Specified
- New Install

The pre-order responses examined were those transactions Qwest requires to be performed prior to submitting orders for the product and activities mentioned previously. The analysis specifically examined a CLEC's ability to use data elements on an order, without manipulation, received from Qwest on the associated pre-order responses.

The pre-order transaction responses reviewed were:

- Address Validation
- Appointment Scheduling
- Connecting Facility Assignment
- Customer Service Record
- Facility Availability
- Service Availability
- TN Reservation

The HPC analysis was a three-step process. First HPC identified the order data elements for the selected product/activity (i.e., order) combinations that were the target of the analysis. This included a determination of the appropriate Qwest Interconnect Charts (I-Charts) to be used for the analysis. In addition, the appropriate PreOrder transactions were associated with each Order.

Second, HPC determined the order data elements that were to be provided by Qwest (via the preorder responses) and those that were to be provided by the CLEC. For purposes of this analysis, any data provided by the CLEC's customer (i.e., the end user) was considered to be data provided by the CLEC. Additionally, HPC used the I-Charts to determine if the order data elements were required, conditional, optional, prohibited, or not required. At this point, those data elements that were prohibited or not required were excluded from the analysis.

Third, HPC mapped the pre-order data elements to order data elements and noted any data definition (i.e., form, format, content, usage, and meaning) issues that were identified during this step.

HPC Observations

As a result of their analysis, HPC made the following observations:

- A Qwest pre-order data element field length is significantly larger than the length of an order data element. However, HPC has not observed any instance where the length of a pre-order data element's value exceeds the length of the order data element.
- Order data element field types fell within the pre-order data element field types (e.g., when a pre-order data element was numeric then the corresponding order data element was either numeric or alphanumeric).
- Two order data elements, CFA and Account Number required manipulation of one or more pre-order data elements.

HPC concluded that the data definitions (i.e., form, format, content, usage and meaning) between pre-ordering and ordering elements, excluding the exceptions noted above, do not require translation, or reconfiguration of the data elements when integrating pre-order transactions into order transactions. Therefore HPC's assessment is that CLECs can utilize Qwest's EDI pre-order transactions to submit an order without data manipulation.

CGE&Y has reviewed the HPC documentation on pre-order to order integration and is in agreement with the HPC conclusions.

5.4.4 Results

CGE&Y identifies the following deficiency in the EDI/interface development process followed by Qwest:

- ❑ Qwest does not provide a fully automated testing environment that mirrors its production environment (AZIWO1044).

The presence of a test environment that mirrors production, even in the absence of trading partners, is a fundamental tenet of software development. With trading partners involved, the issue of a testing environment becomes even more critical. Trading partners aside, however, in the absence of such an environment how does Qwest test its own internal development effort to ensure validity before releasing it to the user community at large?

The current environment works to the extent that transactions can be generated and received, but only through human intervention to ensure that orders do not pass through to the production environment. As a result, some of the responses a CLEC should expect from the Qwest system are manually generated and a time delay often occurs.

It must be noted at this point that for pre-order transactions, real-time responses are received because the Qwest systems interfaced with are the production

systems. Therefore, CLECs can “test” pre-order transactions without having to worry about a test environment.

The drawbacks to the current system are:

- ❑ Delayed production turn-up: CLECs are obligated to obtain “live” accounts as a means to certify EDI. This process is time-consuming and would be unnecessary if a test bed of accounts were available.
- ❑ CLECs may be forced to utilize newly established customers for the testing of EDI. Any problems with the customer’s service will be seen as the fault of the CLEC and not the ILEC.
- ❑ Qwest’s policy for certification testing places its entire production environment at risk.
- ❑ CLECs are reliant on Qwest’s documented requirements to build their side of the interface and it may be only during testing that flaws in documentation are recognized.

The benefits and issues associated with the creation of such a testing environment, as already mentioned elsewhere in this report, are:

- ❑ Qwest would be able to more fully and reliably test its internal EDI development efforts before putting them into production, thus largely eliminating many bugs that are currently discovered only after the production move.
- ❑ CLECs would not have to rely on the tightly controlled availability of Qwest testing personnel.
- ❑ Interoperability and recertification testing could be conducted much more quickly and efficiently.
- ❑ Qwest would not have to expend so many resources on CLEC interface during the testing process.
- ❑ Qwest would no longer be putting mission critical systems at potential risk.

Update – August 2001

On August 1, 2001, Qwest rolled out an EDI test bed called the Stand Alone Test Environment (SATE). This environment was designed to provide functionality for CLECs and third party vendors to conduct progression (i.e., interoperability) testing, regression testing, and adhoc testing associated with development efforts. CLECs have the option of using the SATE for the interoperability testing phase of the EDI development cycle, or continuing to use the “interoperability environment” that was Qwest’s former test environment. Following the implementation of the SATE, CGE&Y was able to close AZIWO1044.

CGE&Y made no formal evaluation of the SATE as part of its Arizona 271 evaluation of Qwest’s OSS.

According to Qwest, the SATE consists of the version of the EDI gateway being tested, including an EDI translator, and a “stubbing system.”⁶¹ The EDI gateway is a fully functioning version, with the exception that certain edits are turned off. These edits are primarily the ones used to determine whether an LSR requires manual handling. Turning off the edits, according to Qwest, in no way affects acceptance of a function performed by a CLEC. The EDI gateway sends Application Programming Interface (API) calls to the “stubbing system” instead of Qwest production systems. Using its own local database, the “stubbing system” provides responses consistent to those that the production back-end systems would ordinarily provide. The EDI gateway and EDI translator then send back the appropriately formatted EDI transactions to the CLEC system.

Also according to Qwest, the SATE does not mimic the flow-through process or the timing of responses in the production environment. Pre-order responses and Business Process Layer (BPL) errors are system-generated in real-time from SATE. For a CSR transaction requesting CSR return via e-mail or File Transfer Protocol (FTP), the appropriate 855 response will be generated. The actual CSR will not be sent via e-mail or FTP.

The following transactions, and all EDI transactions associated with them, are included in the initial release of the EDI SATE:

Pre-Order

- Address Validation (Numbered Addresses only)
- Appointment Scheduling
- Cancel TN/Appointment
- Connecting Facility Assignment
- Facility Availability (Unbundled ADSL, Convert POTS to Unbundled Loop, POTS)
- Meet Point Query
- Raw Loop Data Query
- Customer Service Record Query⁶²
- Service Availability
- TN Reservation Query (with TNSR following)

Order

- Centrex Plus
- Directory Listing Only
- Local Number Portability
- Loop with Number Portability (LNP only)

⁶¹ Information concerning the design of Qwest’s SATE is contained in Qwest’s “White Paper on IMA EDI Stand Alone Test Environment, Version 1.01” dated 06/18/01

⁶² FTP or e-mail requests will not be returned; the appropriate 855 response will be returned.

- POTS Resale
- Shared Loop
- Unbundled Loop
- UNE-P Centrex
- UNE-P POTS

Post Order

- FOC
- Completion
- Reject
- Jeopardy
- Status Updates

When a CLEC enters the testing phase of its development process, it can choose to proceed using Qwest's traditional "interoperability environment" (i.e., the environment that existed prior to the development of the SATE), or it can choose to use the SATE. The administrative processes associated with both of these testing approaches (e.g., the development and approval of a set of test scenarios, the reporting of test results) is very similar for both. The primary difference in the two approaches is in the level of coordination required between the CLEC and Qwest; using the SATE requires considerably less coordination than the interoperability approach. Whichever approach is used during the testing phase, controlled production testing is still required before a CLEC can begin using the EDI system in production.

The following table contains specific findings cross-referenced with CGE&Y's Arizona TSD objectives:

TSD Objective and Section Reference	Objective Satisfied?	Source	Comments
1) Are Qwest processes, intervals and communications activities that are conducted during the development of an EDI, EB-TA or Billing interface to Qwest's OSS or implementing a Qwest IMA-GUI interface to Qwest carried out in accordance with the Qwest processes and procedures published and available to the CLECs	Y	http://www.uswest.com/wholesale/ima/edi/downloads/EDI_ImplementationGuidelin_010301.doc and http://www.uswest.com/wholesale/cicmp/downloads/cicmpProcess.doc	<p>The EDI Implementation Guide provides a comprehensive description of all the processes and, to some extent, the time intervals involved in the EDI development process. Included are processes for project plan development, requirements review, circuit installation and turn-up, cooperative testing, and recertification.</p> <p>The release of EDI design documents is being negotiated through the Change Management Process redesign effort. At the beginning of the process Qwest proposed that it would adhere to the OBF 2233 proposal which calls for the release of draft design documentation 66 calendar days prior to a release and final</p>

TSD Objective and Section Reference	Objective Satisfied?	Source	Comments
			documentation 45 calendar days prior. This topic has not reached a consensus state among the core redesign team, but CGE&Y considers the OBF proposal to be a reasonable timeframe in which to release draft and final design documentation. Further, because of the collaborative nature of the redesign process CGE&Y expects that whatever decision is reached as to the timeliness of EDI documentation releases will be acceptable to the majority of the CLEC community.
2) Are the terms and definitions utilized in the EDI, EB-TA, Billing development and IMA-GUI implementation documentation published and available to the CLECs	Y	http://www.uswest.com/wholesale/ima/edi/downloads/EDI_ImplementationGuidelin_010301.doc	The EDI Implementation Guide contains a terms and definitions section that explains most terms. Because EDI by and large is governed by standards and standards bodies such as X-12, UN/EDIFACT, and TCIF (for telecom), Qwest documents refer CLECs to these organizations and standards for clarifications and definitions.
3) Can the CLECs and the Pseudo-CLEC obtain documentation relating to building an interface and/or configuring service to the Qwest EDI, EB-TA, Billing and IMA-GUI interfaces? Is the documentation clear, accurate, and sufficient to build the interface	Y	http://www.uswest.com/wholesale/ima/edi/downloads/EDI_ImplementationGuidelin_010301.doc and http://www.uswest.com/disclosures/netdisclosure409.html	All of Qwest's technical specifications and developer-level instructions for CLECs to use to build EDI interfaces are contained in the EDI Disclosure Document (a separate one issued for each EDI release) and the EDI Developer Worksheets.
4) Are meetings to discuss interface development reasonably scheduled and attended by Qwest subject matter experts	Y	http://www.uswest.com/wholesale/ima/edi/downloads/EDI_ImplementationGuidelin_010301.doc	Qwest's interface development meetings were found to be a strong point of its joint EDI development process.
5) Do the data definitions (i.e., form, format, content, usage and meaning) between pre-ordering and ordering elements enable integration from pre-order transactions into order transactions without requiring translation, or reconfiguration of the data elements	Y	http://www.uswest.com/disclosures/netdisclosure409.html	HPC conducted an evaluation of the pre-order-to-order integration using Qwest's business rules, comparing them with both LSOG 3 and LSOG 5. HPC concluded that the data definitions (i.e., form, format, content, usage and meaning) between pre-ordering and ordering elements, excluding the exceptions noted above, do not require translation, or reconfiguration of the data elements when integrating pre-order transactions into order transactions. Therefore HPC's assessment is that CLECs can utilize Qwest's EDI pre-order

TSD Objective and Section Reference	Objective Satisfied?	Source	Comments
			<p>transactions to submit an order without data manipulation.</p> <p>CGE&Y has reviewed the HPC documentation on pre-order to order integration and is in agreement with the HPC conclusions.</p>

5.5 Interface Development – LSOG 3 Comparison

As a sub-section of the EDI/interface development area of this report, CGE&Y was tasked with conducting a comparison between Qwest’s business rules and the standards of the OBF of the Alliance for Telecommunications Industry Solutions (ATIS). The OBF rules reviewed are contained in the LSOG, Version 3. While not legally binding, these standards are the basis upon which all pre-ordering and ordering systems are designed.

CGE&Y found that Qwest has made numerous modifications to the OBF standards. CGE&Y found that the fields used by Qwest were consistent with LSOG 3, although some Qwest-specific fields were added. The majority of the differences found between Qwest and LSOG 3 were in the area of field usage; many fields that are “Required” by OBF are either “Optional,” “Not Required,” or “Forbidden” by Qwest, and vice versa. A summary is provided in Appendix Q, “LSOG 3 Comparison.”

5.5.1 Documentation

Appendix Q is comprised of tables containing a comparison of LSOG 3 and Qwest business rules for a typical order type – the Unbundled Loop. Other products were reviewed and found to contain most of the same differences. Please refer to the appendix for this data.

5.5.2 Results

CGE&Y’s analysis of this issue indicates that Qwest deviates significantly from the LSOG 3 in its business rules for local service ordering. CGE&Y’s finding in this regard is focused primarily on the usage of the various fields involved (i.e., prohibited, required, optional, conditional) and not the fields themselves. It is important to note in this regard, however, that since the LSOG is a guideline and not a regulation or even a standard, Qwest is not bound to comply with it.

5.6 Qwest Co-Provider Industry Change Management Process

In late June 2001, Qwest began a comprehensive redesign of every component of its change management process, whose name was officially changed to the Change Management Process (CMP). This redesign process is a collaborative effort between Qwest and CLECs named to the redesign “core team,” and uses OBF issue 2233 as its basis. Since many if not most of the elements of the legacy CICMP are still in effect

while the process is being redesigned, what follows is the report of the original evaluation performed by CGE&Y of Qwest's CICMP, followed by CGE&Y's report of the redesign process as it stands today. Any findings that can be considered closed as a result of the redesign process will be noted as such.

The CICMP is Qwest's process for receiving, tracking, prioritizing, and scheduling CLEC-requested changes to the various pre-ordering, ordering, and M&R interfaces available to them. These interfaces include:

- IMA-EDI
- IMA-GUI
- EB-TA
- CLEC billing interfaces
- Held, Escalated, and Expedited Tool (HEET)
- Customer Terminal Access System (CTAS)
- Telecommunications Information System (TELIS)

Beginning in December 2000, the CICMP charter was modified to also include requested changes to the Qwest business processes that are specific to CLECs.

Per the Section 7.2 of the MTP and Section 6.1 of the TSD, the purpose of the evaluation by CGE&Y was to validate that Qwest:

- Provides CLECs the ability to request changes to the CLEC-specific interfaces and processes **and** have them acted upon
- Adequately notifies CLECs of both planned and unplanned system outages
- Provides adequate documentation regarding CICMP processes and procedures
- Adequately prepares the CLEC community for upcoming changes to the CLEC-specific interfaces
- Carries out the CICMP process according to its own documentation
- Has created a sound overall process for cooperative software change control

Background

The Qwest CICMP kicked off in September of 1999. Prior to its existence, CLECs had to make requests for new or enhanced systems functionality through their account management teams. The process that CGE&Y analyzed for this report has been modified little since its inception. The process is currently being collaboratively redesigned by Qwest and the CLECs Qwest does business with using OBF issue 2233 as its basis. For more detailed information and evaluation of the redesign of Qwest's CMP see CGE&Y's report, Qwest Change Management Process Redesign Evaluation, v5.0.

CGE&Y encountered difficulty in locating CLEC personnel that have substantial history with the process and its development. Those with whom it did speak, however,

indicated that while input from CLECs was invited into the creation of the process, the process was already substantially developed prior to the solicitation of that input.

In late June 2001, Qwest announced an initiative to conduct a comprehensive redesign of its change management process. The process, the official name of which was changed to the Change Management Process (CMP), would be redesigned from the bottom up using OBF issue 2233 as its basis. A “core team” of interested CLECs and Qwest was formed to undertake this redesign, and has been meeting roughly every two weeks since the kickoff of this project in early July 2001. Qwest keeps minutes of all CMP redesign meetings as well as all other documentation related to the redesign effort posted on a special section of the CMP website at <http://www.qwest.com/wholesale/cmp/redesign.html>.

Process

Qwest’s CMP provides CLECs with a well defined and documented process for initiating CRs to request added or modified functionality for any of the interfaces listed above. The process is substantially similar for requested changes to Qwest business processes, and in fact uses the same CR form. The following pages contain a copy of the current Qwest CR form for reference. Qwest has sent out its proposal for a new CR form as part of the redesign process. This proposed form is still being discussed and commented on.

Co-Provider Change Request Form

Log # [REDACTED] Status: [REDACTED]
(see Co-Provider CR Status Listing)

Submitted By: _____ Date Submitted: _____
Co-Provider: _____ Internal Ref# _____
Submitter: _____
Name, Title, and email/fax#/phone# _____

Proprietary for submission to Account Manager Only? Please check mark ⁰4 as appropriate
☐ Yes ☐ No

Title of Change:

Area of Change Request: Please check mark ⁰4 as appropriate and fill out the appropriate section below
☐ System ☐ Product ☐ Process

System Change Request Section

Interfaces Impacted: Please check mark ⁰4 as appropriate

☐ CTAS ☐ IMA EDI ☐ MEDIACC ☐ TELIS
☐ EXACT ☐ IMA GUI ☐ Product Database ☐ Wholesale Billing Interfaces
☐ HEET ☐ Other _____

Please describe

Description of Change:

Is new information requested in a specific screen or transaction?

☐ Yes ☐ No

If yes, name the screen or transaction: _____

Products Impacted: Please check mark ⁰4 as appropriate and also list specific products within product group, if applicable

<input type="checkbox"/> Centrex	_____	<input type="checkbox"/> Resale	_____
<input type="checkbox"/> Collocation	_____	<input type="checkbox"/> SS7	_____
<input type="checkbox"/> EEL (UNE-C)	_____	<input type="checkbox"/> Switched Services	_____
<input type="checkbox"/> Enterprise Data Services	_____	<input type="checkbox"/> UDIT	_____
<input type="checkbox"/> LIDB	_____	<input type="checkbox"/> Unbundled Loop	_____
<input type="checkbox"/> LIS	_____	<input type="checkbox"/> UNE-P	_____
<input type="checkbox"/> LNP	_____	<input type="checkbox"/> Wireless	_____
<input type="checkbox"/> Private Line	_____	<input type="checkbox"/> Other	_____

Please describe

Please describe

Known Dependencies:

Additional Information: (e.g., attachments for business specifications and/or requirements documents)

Co-Provider Priority Level

☐ High ☐ Medium ☐ Low

Desired Implementation Date: _____ ASAP

Product Change Request Section

Products Impacted: Please check mark ^o4 all that apply (if "Other" please describe further)

- | | | | | |
|---|---|--|---|--|
| <input type="checkbox"/> LIS/Interconnection | <input type="checkbox"/> Collocation | <input type="checkbox"/> UNE | <input type="checkbox"/> Ancillary | <input type="checkbox"/> Resale |
| <input type="checkbox"/> EICT | <input type="checkbox"/> Physical | <input type="checkbox"/> Switching | <input type="checkbox"/> AIN | |
| <input type="checkbox"/> Tandem Trans./TST | <input type="checkbox"/> Virtual | <input type="checkbox"/> Transport (incl. EUDIT) | <input type="checkbox"/> DA | |
| <input type="checkbox"/> DTT/Dedicated Transport | <input type="checkbox"/> Adjacent | <input type="checkbox"/> Loop | <input type="checkbox"/> Operation Services | |
| <input type="checkbox"/> Tandem Switching | <input type="checkbox"/> ICDF Collo. | <input type="checkbox"/> UNE – P | <input type="checkbox"/> INP/LNP | |
| <input type="checkbox"/> Local Switching | <input type="checkbox"/> Other _____ | <input type="checkbox"/> EEL (UNE-C) | <input type="checkbox"/> Other _____ | |
| <input type="checkbox"/> Other _____ | | <input type="checkbox"/> UDF | | |
| | | <input type="checkbox"/> Other _____ | | |

Description of Change:

Known Dependencies:

Additional Information: (e.g., attachments for business specifications and/ or requirements documents)

Co-Provider Priority Level

- ☐
- High
- ☐
- Medium
- ☐
- Low

Desired Implementation Date: _____ ASAP

Process Change Request Section

Area Impacted: Please check mark ^o4 as appropriate

- | | |
|---------------------------------------|--------------------------------------|
| <input type="checkbox"/> Pre-Ordering | |
| <input type="checkbox"/> Ordering | |
| <input type="checkbox"/> Billing | |
| <input type="checkbox"/> Repair | <input type="checkbox"/> Other _____ |
| | Please describe |

Description of Change:

Products Impacted: Please check mark ^o4 as appropriate and also list specific products within product group, if applicable

- | | | | |
|---|-----------------|--|-----------------|
| <input type="checkbox"/> Centrex | _____ | <input type="checkbox"/> Resale | _____ |
| <input type="checkbox"/> Collocation | _____ | <input type="checkbox"/> SS7 | _____ |
| <input type="checkbox"/> EEL (UNE-C) | _____ | <input type="checkbox"/> Switched Services | _____ |
| <input type="checkbox"/> Enterprise Data Services | _____ | <input type="checkbox"/> UDIT | _____ |
| <input type="checkbox"/> LIDB | _____ | <input type="checkbox"/> Unbundled Loop | _____ |
| <input type="checkbox"/> LIS | _____ | <input type="checkbox"/> UNE-P | _____ |
| <input type="checkbox"/> LNP | _____ | <input type="checkbox"/> Wireless | _____ |
| <input type="checkbox"/> Private Line | _____ | <input type="checkbox"/> Other | _____ |
| | Please describe | | Please describe |

Known Dependencies:

Additional Information: (e.g., attachments for business specifications and/or requirements documents)

Co-Provider Priority Level☐ High ☐ Medium ☐ LowDesired Implementation **ASAP**

Date: _____

This Section to be Completed by Qwest CICMP Manager**Qwest Account Manager Notification**

Account Manager: _____ Notified: _____

Qwest CICMP Manager Clarification Request☐ Yes ☐ No

If yes, clarification request sent: _____ Clarification received: _____

Co-Provider Industry Team Clarification Request☐ Yes ☐ No

If yes, clarification request sent: _____ Clarification received: _____

Status, Evaluation and Implementation Comments:**Candidate for a
Release**☐ Yes ☐ No

If yes, Release Number: _____

The current process, as documented, works as follows (time intervals are given, where listed in the Qwest documentation):

Process Step	Time Interval
1. Co-provider (i.e. CLEC) submits CR.	
2. CICMP manager logs CR with status of “New-To Be Evaluated,” assigns CR number and notifies originating CLEC of CR number.	Two business days.
3. CICMP manager validates CR and updates status of CR to “New-To Be Industry Evaluated.”	
OR	
4. CICMP manager validates CR and finds it needs clarification, updates status to “New-To Be Clarified,” sends clarification request to originating CLEC, receives response back, then updates status to “New-To Be Industry Evaluated.” If no response is received, the CR will remain as “New-To Be Clarified” for 60 days. If after 60 days no response is received, the CR is cancelled.	<ul style="list-style-type: none"> Co-provider CR status update to co-provider for “New – To be Industry Evaluated” two business days Co-provider CR status update and clarification request to co-provider for “New – To be Clarified” two business days Co-provider CR status update to co-provider for “Cancelled – Clarification Not Completed” two days after the sixty days a co-provider CR remained in “New – To Be Clarified” status Co-provider CR status update to co-provider for “Cancelled – Co-Provider Requested” upon co-provider request to cancel CR.
5. New CR is then discussed at the next available monthly CICMP meeting. If more clarification is required following the meeting, the status of the CR changes to “New-To Be Clarified.” If no further clarification is necessary, the status is changed to “Evaluated-To Be Reviewed.” Finally, certain CRs, after having been discussed at the CICMP meeting, are cancelled at the originating CLEC’s request. These are updated in the log as “Cancelled-Co-Provider.”	
6. CICMP manager completes unspecified internal Qwest change management documentation for the reviewed CRs to be internally reviewed by Qwest teams.	
7. CR is reviewed by Qwest at its internal OSS Interface Release Review meeting. At this meeting, Qwest support groups including the Qwest CICMP manager present and discuss their list of prioritized CRs which have been collected during the initial phase of a release lifecycle. At the end of this phase, a short list of CRs (i.e., release	OSS Interface Release Review meeting varies based on the OSS interface and may occur weekly, biweekly, or monthly. If a co-provider CR status changes to/from

baseline candidates) are selected to enter the next release life cycle phase: development. The reasons for selecting a CR as a release baseline candidate may include priority level, cost/benefit analysis, resource commitments, time constraints, industry direction and Qwest direction.	“Reviewed – Release Baseline Candidate”/“Reviewed – Under Consideration,” the Qwest CICMP manager will notify the co-provider within two days.
8. At some point in the process, presumably during the meeting discussed in the above paragraph, the CR is assigned a “T-Shirt Size” (level of effort) and, if applicable, options.	
9. Approximately six months before an upcoming software release, all CRs with T-Shirt Sizes are prioritized by participating CLECs. This has mainly been accomplished at CICMP meetings, although candidates for the IMA 7.0 release were prioritized using an online form located on the CICMP website.	
10. All prioritized CRs are then reviewed by Qwest and a list of baseline release candidates is produced. This is a reiteration of step #6.	

Observations

This section contains observations of actual practices. It is broken down into the following categories:

- CRs
- Release Notifications
- CICMP Meetings

Change Requests

Although the CR process listed above is strictly adhered to, it is difficult to comprehend the length of time involved in getting a CR through the process merely by looking at the written process.

The following table lists various CLEC-initiated CRs and their significant milestones. This list is not comprehensive; it is included to illustrate the lifecycle of some of the CRs currently in the pipeline.

CR #	Requirement	Date Submitted	Milestones	Current Status
418556	Business rule change to allow more than one loop per Purchase Order Number (PON)	10/12/99	10/12/99 – New-To Be Industry Evaluated 11/4/99 – New-To Be Clarified 11/9/99 – New-To Be Industry Evaluated 11/18/99 – Evaluated-To Be Reviewed 12/3/99 – Reviewed-	Even though this CR was prioritized nearly one year ago, due to the T-Shirt Size provided (XXL), it still <u>has not been</u>

CR #	Requirement	Date Submitted	Milestones	Current Status
			Under Consideration 1/12/00 – Industry Prioritized 1/24/00 – T-Shirt Size provided	<u>scheduled for a release.</u>
4186015	Adherence to OBF guidelines for LSR AGAUTH field	10/12/99	10/12/99 – New-To Be Industry Evaluated 11/11/99 – New-To Be Clarified 12/16/99 – Evaluated-To Be Reviewed 1/10/00 – Reviewed-Under Consideration 1/24/00 – T-Shirt Size provided 2/16/00 – On Hold-To Be Reviewed In Six Months 9/20/00 – Evaluated-To Be Reviewed 9/22/00 – Reviewed-Under Consideration 10/18/00 – T-Shirt Size (NA) provided; not eligible for industry prioritization	Cancelled on 11/15/00, jointly by originator and Qwest.
4186051	Adherence to OBF guidelines for Loop Service CFA	10/12/99	10/12/99 – New-To Be Evaluated 11/9/99 – New-To Be Industry Evaluated 11/18/99 – Evaluated-To Be Reviewed 12/3/99 – Reviewed-Under Consideration 1/12/00 – Industry Prioritized 4/19/00 – Reviewed-Release Baseline Candidate for release 7.0 11/30/00 – Committed Candidate, release 7.0	Committed candidate, IMA Release 7.0. Scheduled for release 4/1/01.
4455257	Allow POTS provisioning via EDI using TNs obtained through IMA-GUI pre-order	1/21/00	1/26/00 – New-To Be Industry Evaluated 2/16/00 – Evaluated-To Be Reviewed 2/28/00 – Reviewed-Under Consideration 3/15/00 – T-Shirt Size provided 3/30/00 – Industry Prioritized	Prioritized, not yet scheduled for release.
5042531	Load BANs into	8/31/00	8/31/00 – New-To Be	Prioritized,

CR #	Requirement	Date Submitted	Milestones	Current Status
	IMA databases for all CLECs instead of CLECs having to load all their own BANs		Evaluated 8/31/00 – New-To Be Clarified 9/1/00 – New-To Be Evaluated 9/20/00 – Evaluated-To Be Reviewed 9/22/00 – Reviewed-Under Consideration 10/18/00 – T-Shirt Size provided 11/3/00 – Prioritized	not yet scheduled for release.
4185985	Removal of the 2000 circuit limit per BAN	10/12/99	10/12/99 – New-To Be Industry Evaluated 11/4/99 – New To Be Clarified 11/9/99 – New-To Be Industry Evaluated 11/18/99 – Evaluated-To Be Reviewed 12/3/99 – Reviewed-Under Consideration 1/12/00 – Prioritized 1/24/00 – T-Shirt Size provided 4/19/00 – On Hold-To Be Reviewed In Six Months 10/18/00 – Reviewed-Under Consideration 11/15/00 – T-Shirt Sizes and options once again provided	Prioritized, not yet scheduled for release.
5079096	Order review to be included in FOC	9/18/00	9/18/00 – New-To Be Industry Evaluated 10/18/00 – Evaluated-To Be Reviewed 10/27/00 – Reviewed-Under Consideration 11/15/00 – T-Shirt Size provided 12/4/00 – Status changed back to Reviewed-Under Consideration	Not yet prioritized.
5144378	Remove population requirement for approver's name and number when the EXP, SCZ, ALBR, AENG, and CHC fields on the LSR form are	10/13/00	10/13/00 – New-To Be Evaluated 11/15/00 – Evaluated-To Be Reviewed 12/4/00 – Reviewed-Under Consideration	Awaiting T-Shirt Size and prioritization.

CR #	Requirement	Date Submitted	Milestones	Current Status
	populated with a Y			
5212925	Make the field length for IMPCON, ALT IMPCON, and DESIGNER fields at least 24 characters	11/8/00	11/8/00 – New, to be evaluated 12/4/00 – Reviewed, under consideration	Awaiting T-Shirt Size and prioritization.

Several comments are pertinent regarding the above list. The first and most obvious point is that several CRs on the list were submitted over a year ago and, even though given a high priority by the CLEC community, have not yet been scheduled for a release. It is well understood by all participants in the CICMP process that not all CRs will be implemented; however, this brings up a second point, related to the first.

Some CRs, coincidentally some of those that have been on the waiting list the longest (see CR #418556 and #4186015 above), are either requests for basic functionality or adherence to OBF guidelines. CR #418556, for instance, is requesting a change to IMA-GUI functionality to allow more than one UNE-loop to be ordered per PON. This is a basic function that has been available on the manual OBF Loop Service form since its inception (the Loop Service form has space to list up to four loops on the first page, and customers are free to attach as many additional Loop Service pages as necessary to fulfill their order).

CR #4186015 is a request that Qwest make a business rules change to IMA-GUI with regard to the Agency Authorization (AGAUTH) field to reflect OBF guidelines for new installs. After over a year of discussion and review it was found that Qwest had made the change. CR #4186051 and CR #4186015 are simply requests for adherence to OBF guidelines.

The final point to be made is merely to point out the sheer length of time it takes even the simplest and/or highest priority CRs to make their way through this system. In “ordinary” in-house software development efforts where changes are to be made to production systems, whatever the industry, it is not uncommon for the CR process (submission, level-of-effort, approval, prioritization, scheduling of release) to take two to three weeks; sometimes even less. Systems as complex as those under consideration, with the number of trading partners involved, obviously cannot be compared to ordinary production systems of other companies. That said, however, CGE&Y finds it unreasonable that the process is such that it can take three to four months, sometimes even longer, to give a CR a level of effort, have it prioritized, and schedule it for a release which again could be another four to eight months away. This finding has resulted in the issuance of AZIWO1076.

In response to AZIWO1076, Qwest has implemented improvements to its current process (i.e., not the redesigned process) to address CR processing timeliness problems. The following changes have been implemented by Qwest:

- A new CR tracking database has been developed to enable CMP managers to better track the progress of CRs
- Because of the new CR tracking database, up-to-date CR reports are now available, sorted various ways, on the CMP website
- Each CR is now assigned a Project Manager so that each CR is now treated within Qwest as a Project
- A Director of Change Management so that the Change Management function within Qwest now has the requisite authority to direct the work necessary to effect the requested changes

The net affect of the above changes is that CRs are now processed by Qwest and presented to the CLEC community in a much more timely manner than before. As a result, CGE&Y is recommending closure of AZIWO1076.

IMA 6.0 Change Requests

The following table lists CICMP CRs that were implemented in IMA 6.0, and their significant milestones. Two of these CRs involved changes to processes, not systems, and one was requesting functionality that Qwest had already built and would be included in Release 6.0. *Not counting those three CRs, the average lifecycle of the remaining CRs, from the time they were submitted to the time they were implemented, is 12.5 months. (AZIWO1076)*

CR #	Requirement	Date Submitted	Milestones
4185852	Request for same PON use for migration of existing facilities and additional new facilities	10/12/99	10/12/99 – New-To Be Industry Evaluated 11/18/99 – Evaluated-To Be Reviewed 12/3/99 – Reviewed-Under Consideration 1/12/00 – Industry Prioritized 1/24/00 – T-Shirt Size provided
4261631	Enhancements to ADSL Loop Pre-Qualification	11/5/99	11/8/99 – New-To Be Industry Evaluated 11/18/99 – Evaluated-To Be Reviewed 12/3/99 – Reviewed-Under Consideration 1/12/00 – Industry Prioritized 1/24/00 – T-Shirt Size provided 1/24/00 – Reviewed-Release baseline Candidate for Release 6.0
4342063	CSR: Change to include fielded data based on OBF standards	12/8/99	12/9/99 – New-To Be Industry Evaluated 12/15/99 – New-To Be Clarified 1/1/00 – New-To Be Industry Evaluated 1/24/00 – Evaluated-To Be Reviewed

			2/3/00 – Reviewed-Under Consideration 2/16/00 – T-Shirt Size provided 4/19/00 – Reviewed-Baseline Candidate for IMA Release 6.0
4267810	Extend IMA hours of operation	11/9/99	11/9/99 – New-To Be Industry Evaluated 11/18/99 – Evaluated-To Be Reviewed 12/3/99 – Reviewed-Under Consideration 1/12/00 – Industry Prioritized 1/24/00 – T-Shirt Size Provided
5235881	CSRs for Centrex in electronic format	11/17/00	11/17/00 – New-To Be Industry Evaluated 11/21/00 – New-To Be Industry Evaluated 12/4/00 – Reviewed, under consideration
4441096	Retrieval of CSR by BTN or WTN	1/19/00	01/20/00 – New-To Be Industry Evaluated 01/24/00 – Evaluated-To Be Reviewed 02/03/00 – Reviewed-Under Consideration 02/16/00 - On Hold-To Be Reviewed In Six Months, and not Eligible for Industry Prioritization. 03/03/00 – CR Escalated 03/06/00 - Changed status to “Reviewed-Under Consideration.” Conducted co-provider industry team conference call to notify co-providers of status change with T-Shirt size and level of effort to be provided at the next industry team meeting on 03/15/00. 04/19/00 – Reviewed-Release Baseline Candidate for IMA Release 6.0 based on T-Shirt Size large and option description.
5043023	Create notification process for LSMS system outages	8/31/00	8/31/00 – New-To Be Evaluated 9/20/00 – Evaluated-To Be Reviewed 9/22/00 – Reviewed-Under Consideration 10/18/00 – T-Shirt Size NA provided in CICMP meeting. This CR will be resized for the November CICMP meeting and is not Eligible for Industry Prioritization. 11/15/00 – T-Shirt Size small and option provided in CI CMP meeting. Eligible for Industry Prioritization.

Release Notifications

Qwest’s process for Release Notifications (RN) is very similar to that of the CR process. The RN form, in fact, is nearly identical to the CR form. The distinction, as the name implies, is that the RN is only a notification to the CLEC community, and as such is only initiated by Qwest. A CLEC can not issue an RN.

The RN is initiated by any one of a number of Qwest organizations, follows a process of review, approval, and logging, and then is released to the CLEC community by the

CICMP manager via e-mail and by posting to the RN web page. The following pages contain a copy of the form for reference:

Qwest Release Notification Form

Log # [REDACTED] Status: [REDACTED]

Submitted By: _____

Date Submitted: _____

Contact Information: _____

Name, title, email, phone #

Title of Notification: _____

Area of Release Notification: Please check mark ^o4 as appropriate and fill out the appropriate section below☐ System ☐ Product ☐ Process**Communicated To:** _____

Date Communicated: _____

Please check mark ^o4 as appropriate☐ Co-Provider Industry Team ☐ IMA EDI current users or with an agreed upon project work plan ☐ IMA CD Disclosure Document Recipients
☐ Public ☐ IMA GUI current and potential new users**Type of Notification:** Please check mark ^o4 as appropriate

<input type="checkbox"/> Target Release Date	<input type="checkbox"/> Disclosure Document Addendum
<input type="checkbox"/> Target Release Life Cycle	<input type="checkbox"/> Training Schedule
<input type="checkbox"/> Co-Provider Change Request Options for a Release	<input type="checkbox"/> Release Notes Description
<input type="checkbox"/> Release Baseline Candidates with Descriptions	<input type="checkbox"/> Release Notes
<input type="checkbox"/> Draft Developer Worksheets	<input type="checkbox"/> Point Release Notes Description
<input type="checkbox"/> Disclosure Document	<input type="checkbox"/> Point Release Notes
<input type="checkbox"/> Recertification Notices	<input type="checkbox"/> System Available Times
<input type="checkbox"/> New Product	<input type="checkbox"/> Product Retirement
<input type="checkbox"/> Product Enhancement	
<input type="checkbox"/> Other _____	

Please describe

Description of Notification: (e.g., mode/method of message and timing of delivery)**Additional Information:** (e.g., web sites)

System Release Notification Section

Interfaces Impacted: Please check mark ^o4 as appropriate

<input type="checkbox"/> CTAS	<input type="checkbox"/> IMA EDI	<input type="checkbox"/> MEDIACC	<input type="checkbox"/> TELIS
<input type="checkbox"/> EXACT	<input type="checkbox"/> IMA GUI	<input type="checkbox"/> Product Database	<input type="checkbox"/> Wholesale Billing Interfaces
<input type="checkbox"/> HEET	<input type="checkbox"/> Other _____		

Please describe

Product Release Notification Section

Products Impacted: Please check mark ^o4 all that apply (If "Other" please describe further)

<input type="checkbox"/> LIS/Interconnection	<input type="checkbox"/> Collocation	<input type="checkbox"/> UNE	<input type="checkbox"/> Ancillary	<input type="checkbox"/> Resale
<input type="checkbox"/> EICT	<input type="checkbox"/> Physical	<input type="checkbox"/> Switching	<input type="checkbox"/> AIN	
<input type="checkbox"/> Tandem Trans./TST	<input type="checkbox"/> Virtual	<input type="checkbox"/> Transport (incl. EUDIT)	<input type="checkbox"/> DA	
<input type="checkbox"/> DTT/Dedicated Transport	<input type="checkbox"/> Adjacent	<input type="checkbox"/> Loop	<input type="checkbox"/> Operation Services	
<input type="checkbox"/> Tandem Switching	<input type="checkbox"/> ICDF Collo.	<input type="checkbox"/> UNE – P	<input type="checkbox"/> INP/LNP	
<input type="checkbox"/> Local Switching	<input type="checkbox"/> Other _____	<input type="checkbox"/> EEL (UNE-C)	<input type="checkbox"/> Other _____	
<input type="checkbox"/> Other _____		<input type="checkbox"/> UDF		
		<input type="checkbox"/> Other _____		

Process Release Notification Section

Area Impacted: Please check mark ^o4 all that apply

- ☐ Pre-Ordering
☐ Ordering
☐ Billing
☐ Repair
 ☐ Other _____
 Please Describe

Products Impacted: Please check mark ^o4 as appropriate and list specific products within product group, if applicable

- | | | | |
|---|-----------------|--|-----------------|
| <input type="checkbox"/> Centrex | _____ | <input type="checkbox"/> Resale | _____ |
| <input type="checkbox"/> Collocation | _____ | <input type="checkbox"/> SS7 | _____ |
| <input type="checkbox"/> EEL (UNE-C) | _____ | <input type="checkbox"/> Switched Services | _____ |
| <input type="checkbox"/> Enterprise Data Services | _____ | <input type="checkbox"/> UDIT | _____ |
| <input type="checkbox"/> LIDB | _____ | <input type="checkbox"/> Unbundled Loop | _____ |
| <input type="checkbox"/> LIS | _____ | <input type="checkbox"/> UNE-P | _____ |
| <input type="checkbox"/> LNP | _____ | <input type="checkbox"/> Wireless | _____ |
| <input type="checkbox"/> Private Line | _____ | <input type="checkbox"/> Other | _____ |
| Please describe | Please describe | | Please describe |

This Section to be Completed by Qwest CICMP Manager

Status, Evaluation and Implementation Comments:

CGE&Y finds no deficiency with the overall process. It is strictly followed by Qwest, and RNs issued by the CICMP manager were found to be complete and clearly written. The following table is provided as an example of a typical month's worth of Qwest RNs:

RN #	Title	Released To	Date Issued
4997738	Change in IMA System Availability	IMA Users and Account Managers	08/15/00
		Co-Provider Industry Team email	08/16/00
4999285	IMA NewsBurst	IMA Users and Account Managers	08/16/00
		Co-Provider Industry Team email	08/16/00
5017528	Draft IMA 6.0 Release Baseline Candidates with Descriptions - Clarification	Co-Provider Industry Team email	08/23/00
5019199	Updated IMA 5.02 Point Release Notes	Co-Provider Industry Team email	08/23/00
5021465	Interconnect Mediated Access Release 5.02	IMA Users and Account Managers	08/21/00
		Co-Provider Industry Team email	08/24/00
5024806	CALA/SAGA Field for IMA-EDI Release 5.0	IMA-EDI Users	08/24/00
		Co-Provider Industry Team email	08/25/00
5059933	IMA Production Update	IMA Users and Account Managers	09/11/00
		Co-Provider Industry Team email	09/11/00
5062166	IMA NewsBurst	IMA Users and Account Managers	09/11/00
		Co-Provider Industry Team email	09/11/00
5064800	IMA-EDI Notification – CSRR Multiple Match Response Map Change	IMA-EDI Users and IMA 5.0 CSR EDI Users	09/12/00
		Co-Provider Industry Team email	09/12/00
5066586	Co-Provider Change Request Options for IMA Release 8.0	Co-Provider Industry Team email	09/13/00

RN #	Title	Released To	Date Issued
5066586	IMA User Questionnaire on Documentation	IMA Users	09/13/00
		Co-Provider Industry Team email	09/13/00

The only deficiency in the RN process lies in the timing of the release of EDI design documentation. During the course of the evaluation, CGE&Y had the opportunity to observe two full release cycles: one minor “point” release and one major “version” release. The following table contains pertinent milestone data for the most recent “version” release, as it is indicative of the process as defined by Qwest.

Event	Date	Method of Communication
IMA-EDI 6.0 Draft Developer Worksheets released	7/20/00	E-mail
IMA-EDI 6.0 baseline release candidates released	7/21/00	E-mail
IMA-EDI 6.0 release schedule	7/27/00	E-mail
IMA-EDI 6.0 training schedule released	9/15/00 (First class not scheduled until 11/02/00)	E-mail
IMA-EDI 6.0 Disclosure Document (with I-Charts) posted to the web	11/7/00	E-mail
IMA-EDI 6.0 Disclosure Document business description changes	12/29/00	E-mail

From the above schedule, the primary flaw in the release notification process becomes clear. In order for CLECs to successfully code their EDI interfaces (GUIs, business rules engines, parsers, mapping/translation engines, etc.) to match the changes on the Qwest side, they need a stable set of system specifications to work from. The above schedule, which has been in force for at least the last two major and one minor releases of IMA, shows the following:

- “Draft Developer Worksheets” are released approximately five months before a release.
- “Final” development specifications are not released until roughly one month (sometimes less) before the release.
- Often times the “Final” specifications aren’t final, as evidenced by the updated spec issued two weeks after the 6.0 release was already in production.

“Draft developer worksheets,” as the name implies, are drafts. They can certainly be used by CLEC development staff to get a start on development efforts. Qwest makes it clear, however, that changes to these worksheets can and will be made throughout the development process up until the issuance of the “final” disclosure document.

CLECs have repeatedly taken issue with this schedule, bringing it up as an issue in CICMP meetings. Qwest’s reply to this issue has always been that it always supports the previous IMA-EDI release for six months following the production release of the new version. The CLECs find this answer unacceptable, and CGE&Y largely concurs. As a result of this finding, CGE&Y has issued AZIWO1078.

The release of EDI design documents is another topic that is being negotiated through the CMP redesign effort. At the beginning of the process Qwest proposed that it would adhere to the OBF 2233 proposal which calls for the release of draft design documentation 66 calendar days prior to a release and final documentation 45 calendar days prior.

This topic has not reached a consensus state among the core redesign team, but CGE&Y considers the OBF proposal to be a reasonable timeframe in which to release draft and final design documentation. Further, because of the collaborative nature of the redesign process CGE&Y expects that whatever decision is reached as to the timeliness of EDI documentation releases will be acceptable to the majority of the CLEC community. As a result, CGE&Y is recommending closure of AZIWO1078.

CICMP Meetings

During the course of the evaluation, CGE&Y had the opportunity to attend several CICMP meetings, either via conference bridge or in-person.

Prior to each meeting, the CICMP manager sends out a meeting package that is also made available on the CICMP website. This package contains:

- Meeting agenda
- List of active CRs, separated by system/interface
- Master issues log, containing all open action items
- Copy of each of the active CRs
- Tables containing release candidates, if applicable
- Any other supporting documentation for discussion at the upcoming meeting

Meetings are always attended by the CICMP manager and at least one representative from each Qwest business and/or IT unit affected by the topics discussed at the meeting. This usually consists of one or more representatives from:

- EDI
- Billing
- IMA-GUI

- Training
- Other departments responsible for such things as OBF standards, business processes, and sometimes account management

CLECs may choose to attend in person or via a conference call bridge. Other organizations attend as well, such as third party test consultants (CGE&Y, KPMG, etc.) and EDI/Gateway vendors (e.g., NightFire, Mantiss, Quintessent).

When CGE&Y's evaluation began, the meetings usually ran the entire allotted time, four hours, and it was often necessary to "table" discussion items in order to get through the entire agenda in the time allotted.

As a result, the only deficiency originally found in the meetings themselves was the frequency. The frequency of the meetings had consequences on other aspects of the process, and these are discussed elsewhere in this report. Regarding the meetings themselves, however, the fact that they were only once monthly meant, by definition, that they were very long and their agendas very often filled to the brim. This often made it difficult to even get through all the agenda items, let alone initiate discussion on a topic that was not on the agenda. If a topic was brought up and then tabled due to time constraints, unless it was identified as a very important topic, it was another month before it could be brought up again.

Since the inception of the separated Systems and Product/Process CMP functions, meetings are held once per month and are one day in duration. There are separate one-day meetings for the Systems CMP and the Product/Process CMP. While the agendas are adhered to as much as possible, there is usually sufficient time built into them for "walk-on" items that can be proposed by either Qwest or the CLECs. Additionally, Qwest has made visible efforts to ensure that these meetings have the proper participation from their side so that issues and CRs do not have to be tabled as often as in the past.

Another improvement implemented since the inception of the separate CMP processes for Systems and Products/Processes is the establishment of "Clarification Calls." Essentially requirements reviews, "Clarification Calls" are now scheduled on all CRs presented during CMP meetings for which additional discussion is required with SMEs to adequately capture the requested requirement. In such cases, the CMP manager schedules the call and sends a notification to the entire CMP e-mail distribution list so that all interested parties can attend. In the past such meeting did take place, but usually only with the CR initiator and Qwest in attendance, and other CLECs experiencing the same problem or needing the same functionality would not be provided the opportunity to comment until the next CMP meeting.

Other conference calls are sometimes held between scheduled CMP meeting to discuss important items that may or may not be related to CRs. For instance, in the Fall of 2001 scheduled a series of conference calls to come a consensus on CLEC requirements for Qwest's Loss and Completion Report. These requirements are still being discussed.

Also, the CLECs recently requested a special meeting with Qwest to discuss the rationale behind a number of Qwest-proposed changes slated for IMA release 10.0.

5.6.1 Questionnaires

Questionnaires regarding the Qwest CICMP⁶³ were sent to all of the CLECs whose names appear on the CICMP attendance sheets since the beginning of the process. Formal responses were received from only six CLECs, although informal responses were received via telephone calls and e-mails throughout the evaluation process.

Questionnaire responses generally matched with the results of the overall evaluation. Specifically, participants feel that while the process is well defined, more than adequately documented, and adequately administered, the process itself is poorly conceived, too narrowly focused, and only marginally achieves its objectives for CLECs.

The relevant points highlighted by the questionnaires are summarized below:

- ❑ CLECs that responded to the questionnaires were uniformly dissatisfied with the length of time it takes to create a CR, have Qwest give it a level of effort, have it prioritized, and finally have it scheduled for a release.
- ❑ Most respondents expressed extreme displeasure with the fact that CLEC CRs seem to be constantly “bumped” in favor of “higher priority” changes, all of which are generated internally by Qwest.
- ❑ Most respondents expressed their dissatisfaction with the actual number of CLEC-initiated CRs that actually make it into a software release. For example, of the approximately 24 new functions added to IMA for its 6.0 release in December 2000, only 4 of them originated with a CLEC CR.
- ❑ Some of those that responded indicated that they felt the process was too narrowly defined. For example, in the past CLECs were prevented and/or discouraged from discussing business process-related issues during CICMP meetings, even though system functionality is largely driven by business processes. This has since been rectified by the addition of CICMP meetings dealing only with processes. Likewise, other topics which are systems related but not specifically related to functionality and CRs, such as test environments and processes, are often excluded from discussion because they are “outside the scope of CICMP.”
- ❑ As a corollary to the above, one of the formal respondents and several of the informal respondents felt that there was an unintentional “Catch-22” in the process. Specifically, that for issues “outside the scope of CICMP,” CLECs

⁶³ CGE&Y Archive File: RME #7 – CLEC Questionnaire RE: Qwest CICMP

are told to consult with the account management teams. Very often, however, when the CLECs do take their issues to their account managers, they are told that the issue in question should be addressed by CICMP.

5.6.2 Interviews

CGE&Y interviewed the CICMP manager in the fall of 2000. This manager was in the process of transitioning her duties to a new manager. Following this interview, a new CICMP for products and processes was implemented and another manager named to lead it.

The manager described the CICMP process in high-level terms, including processes for CR prioritization and escalation. Since the process is so well documented, however, nothing new or hidden about the process was brought to light.

The only area of concern from the CICMP manager's perspective was the level of CLEC representation at typical CICMP meetings. According to her, at most meetings the ratio of CLECs present to CLECs that have actually signed up to attend is "very small." This adversely affects Qwest's ability to discuss open CRs and have them voted upon.

CGE&Y comment: CGE&Y has attended several CICMP meetings, either by telephone or in person, since July 2000 and has found them to be adequately attended by the CLECs on most occasions.

CGE&Y interviewed CLEC personnel involved in the CMP redesign. Those interviewed were encouraged with the progress of the effort, however several areas of disagreement still exist. It is their opinion that system change requests are processed somewhat faster, but that product/process change request process has not yet improved.

5.6.3 Documentation

Documentation available to CLECs regarding the CMP process is comprehensive. Documentation is updated on a continuous basis. Additionally, Qwest has created a special page concerned solely with the CMP redesign effort (<http://www.qwest.com/wholesale/cmp/redesign.html>), containing all documentation related to that effort. A summary of available documentation is contained in the table below:

Document Name/Purpose	Web Location
CMP Process Overview	http://www.qwest.com/wholesale/downloads/2001/010514/CMP_Document_051401.doc
CMP Prioritization Process	http://www.qwest.com/wholesale/downloads/2000/industry_team_prioritization_process.doc

CMP Escalation Process	http://www.uswest.com/wholesale/cicmp/downloads/Escalation_120100.doc
Change Request Form	http://www.qwest.com/wholesale/downloads/2001/011120/CR_Form_11-02-01_rev9_ro.doc
Change Request Form Instructions	http://www.qwest.com/wholesale/downloads/2001/011120/CR_Form_11-02-01_rev9_ro.doc
CMP Meeting Schedule	http://www.qwest.com/wholesale/downloads/2001/010927/Co-Provider_Industry_Team_Meeting_Schedule_v_24.doc and http://www.qwest.com/wholesale/downloads/2001/010928/Prod-ProcTeamMeetingschedule92701.doc
CMP Meeting Packages	http://www.qwest.com/wholesale/cmp/teammeetings.html
Release Notifications	http://www.qwest.com/wholesale/cmp/releasenote.html
12-month OSS Release Schedule	http://www.qwest.com/wholesale/cmp/ossalendar.html
FAQs	http://www.qwest.com/wholesale/cmp/questions.html

5.6.4 Results

Qwest began a comprehensive review and redesign of the entire CICMP charter in June 2001. The process is being collaboratively redesigned by Qwest and the CLECs that Qwest does business with, and OBF issue 2233 is being used as the basis for its redesign. The proposed redesign is aimed at improving many of the deficiencies defined in this report. Since this effort is still underway, CGE&Y was unable to make an assessment of the effectiveness of the finished product. CGE&Y was able to evaluate the redesign process itself, where it appears to be headed, and any processes that have already been agreed upon and implemented by Qwest. The following section contains CGE&Y's original findings related to the CICMP (i.e., prior to the redesign initiative and the function's redesignation as the "CMP") and the areas where the redesign effort has aimed at remediating CGE&Y's findings. For more detailed information and evaluation of the redesign of Qwest's CMP see CGE&Y's report, Qwest Change Management Process Redesign Evaluation, v5.0.

CGE&Y found that the Qwest CICMP process did not satisfy the objectives set forth in the CGE&Y MTP Section 3.3.4 and TSD Section 6.6 for the following reasons:

1. The CICMP process was not a truly collaborative vehicle for CLECs to request changes to the applicable interfaces. (AZIWO1075)
2. CLEC CRs were not acted upon in a reasonable amount of time. (AZIWO1076)
3. EDI development documentation was not distributed in a timely manner. (AZIWO1078)

Deficiency #1, Explanation

The Qwest CICMP process is well documented and defined, and is carried out in accordance with its stated process. There is ample and clearly understandable documentation on the Qwest wholesale website describing the purpose of the CICMP and its processes, and containing instructions for completing a CR form. Also contained on the website are blank CR forms for printing or download, copies of CRs that have been submitted, and a comprehensive repository of materials from past CICMP meetings as well as for upcoming meetings.

The Qwest CICMP managers do an excellent job of keeping the CLECs in the loop with all issues relating to CICMP between the monthly meetings. They also have made several modifications to the CICMP home page to incorporate additional avenues of communication and collaboration between Qwest and the CLECs.

The fundamental flaws in the process lie with its very purpose and structure.

The primary functions of the CICMP, as stated in its charter, are:

- To track and communicate *CLEC*-requested changes to the various Qwest interfaces
- To *notify* CLECs of *CLEC-impacting* changes

Historically, however, CLEC requests have only accounted for a small percentage of the functionality added to any given release. For instance, IMA-GUI Release 6.0 contains 24 changes or enhancements over Release 5.2; and only 4 of them originated with a CLEC request.

Further, the Qwest-originated requests, which account for the majority of enhancements to these systems, are totally outside the scope of the CICMP process. They are not open for debate, prioritization, voting, etc., by the CLEC

community. Not only are they not open for debate, the CICMP manager is not even involved in the process by which these internal requests are approved.⁶⁴

In any software requirements management system it is understood that the end-users are not the sole originators of CRs. It is a given, in fact, that Qwest will have the need to make architectural, code, or database modifications to its systems from time to time due to various internal requirements. It is also understandable that regulatory requirements will mandate changes to various CLEC systems. The fact remains that many of the enhancements that are generated internally by Qwest are related neither to architecture or regulatory concerns. Regardless of the source of the enhancement, however, the process by which these requests are made, voted on, prioritized, and implemented is not made available to the CLEC community in any way, nor do the CLECs have any input into it whatsoever. As a result, there is justifiable concern that the internal CRs are not subject to the same scrutiny and delay inherent in the CICMP process.

Best practices in software engineering dictate that software change management processes treat all CRs in a cohesive, uniform manner. Further, all stakeholders in the systems in question, including the end-users, must have representation at the change control meetings during which all changes are voted on. The fact that Qwest has two separate change management processes, one internal and one external, for the same systems is a deficiency. This finding has resulted in the issuance of AZIWO1075.

Software CRs can originate from many sources: users, developers, managers, or as a result of regulatory or company policy changes. A large number of changes to any software, however, comes from users of that software. Further, the functional requirements used to design the system in the first place almost exclusively come from the end-users. As previously mentioned, the interfaces covered by the CICMP process were designed and exist primarily for the use and benefit of Qwest wholesale customers (e.g., CLECs, wireless carriers). Therefore, to have a totally separate process for CRs that wholesale customers have no participation in, yet which produces the vast majority of approved CRs, is an unacceptable and counterproductive practice.

A review of current software change management practices followed by two other RBOCs chosen at random, Bell Atlantic and Bell South, show these RBOCs follow a fully collaborative process. In reviewing the change management practices of these two RBOCs, CGE&Y found that while change requests are given a classification that indicates, among other things, whether the CR is CLEC or RBOC-initiated, all CRs are discussed and prioritized by all participants of the change control process, including CLECs. The charter for Qwest's CICMP, on the other hand, makes it clear that the CICMP is only for CLEC-initiated changes.

⁶⁴ This was the case as of October 23, 2000, when CGE&Y interviewed the previous CICMP manager.

The redesigned CMP, as it is proposed, will address and alleviate this deficiency. The original proposal from Qwest, following the base OBF 2233 document, outlined five categories of change requests:

1. Production Support Changes (i.e., “bug fixes”)
2. Regulatory Changes
3. Industry Guideline Changes
4. Qwest-Initiated Changes
5. CLEC-Initiated Changes

Qwest had initially proposed that only Types 4 and 5 changes would be open for industry (i.e., CLEC) prioritization. The CLECs have since argued, justifiably, that all types, or at the very least Types 2 – 5, should be open for prioritization. Their rationale for this argument, which CGE&Y is in agreement with, is that nearly all regulatory changes, and many industry guideline changes, originate with a CLEC complaint or initiative and that they should have a say in the relative importance of these types of changes. There is also concern about the definition of a “regulatory change.” The CLECs are concerned that Qwest may interpret the term “regulatory” too broadly, and thereby needlessly place numerous change requests in a category that would exempt them from industry prioritization.

In fact, Qwest recently did classify a number of change requests as “Regulatory” that were candidates for IMA release 10.0. The CLEC community requested a conference call to discuss these requested changes, during which it was revealed that the changes were being scheduled for implementation to satisfy PID and/or Performance Assurance Plan (PAP) requirements from the Colorado PUC. The CLECs let it be known that they do not consider PID and PAP-related changes to be regulatory and exempt from industry prioritization. This issue is still being negotiated. CGE&Y does not believe that Qwest had any untoward motive in classifying these changes as “Regulatory,” but rather had a different interpretation of the term. The CMP is now a more collaborative process and the CLECs were able to be heard on the issue.

Qwest expressed the concern that they need to have some way to satisfy PID and PAP requirements, and that with only one vote in the prioritization process there is the possibility that these types of CRs will consistently be prioritized “low” by the industry, thereby forcing Qwest to pay penalties enforced by the various state PAPs. The CLECs pledged that they would give all CRs equal weight, and it was further pointed out that Colorado PAP provides for penalties to be assessed against CLECs who attempt to engage in such disingenuous activities.

These issues serve to illustrate the kinds of canded discussions that are now taking place within the CMP. These issues aside, CGE&Y agrees with the

CLEC position that Type 2 – 5 changes should be open for industry prioritization.

In summary, CGE&Y feels that with the collaborative nature of the redesign process, whatever agreement is reached on the subject of types of change requests and the process by which these requests are prioritized and voted upon will be satisfactory to the majority of the CLECs with representation at the Qwest CMP. CG&EY has therefore closed AZIWO1075.

Deficiency #2, Explanation

Regarding the flaws in the “structure” of the CICMP process mentioned above, the following comments also apply. Despite the application of fairly conservative time intervals to individual steps of the CR process, the length of time it takes an average CR to make it through the process, not even taking into account making it into a release, is simply too long. If we take into account the length of time it takes a CR to actually make it into a release, the length of time can double or even triple. These findings resulted in the issuance of AZIWO1076.

The primary culprits here are the once-monthly CICMP meetings and their relation to internal development meetings, and the frequency of software releases (releases are scheduled approximately every four months).

The frequency of the CICMP meetings has the potential to slow down the CR process at several points. For instance, depending upon when a CLEC submits a CR, it can take from several days to an entire month for the CR to be initially “industry evaluated.” If the CR requires clarification, it can take from several days to two months before it is discussed at its first CICMP meeting.

Having been initially discussed at the CICMP meeting, the CR still has a minimum of two more CICMP meetings at which it must be discussed: once, when it receives a “T-Shirt Size,” and again after it has been prioritized and is baselined for release. If further clarification is required once the CR has been discussed at any of the aforementioned stages, the CR will need to come back to the CICMP once again. Each time the CR must come back to a CICMP meeting for discussion, there is the possibility that it will have to wait nearly a month for one to come along.

Obviously, some CRs are timed perfectly and make it through the system in the minimum time possible. This minimum possible time, however, can still be considerable. In this regard, it is again necessary to point out the sheer length of time it takes even the simplest and/or highest priority CRs to make their way through this system. In “ordinary” in-house software development efforts where changes are to be made to production systems, whatever the industry, it is not

uncommon for the CR process (submission, level-of-effort, approval, prioritization, scheduling of release) to take two to three weeks; sometimes even less.

Systems as complex as those under consideration, with the number of trading partners involved, obviously cannot be compared to “ordinary” production systems of other companies. That said, however, CGE&Y finds it unreasonable that the process is such that it can take three to four months, sometimes even longer, to give a CR a level-of-effort, have it prioritized, and schedule it for a release which again could be another four to eight months away.

In response to AZIWO1076, Qwest has implemented improvements to its current process (i.e., not the redesigned process) to address CR processing timeliness problems. The following changes have been implemented by Qwest:

- A new CR tracking database has been developed to enable CMP managers to better track the progress of CRs
- Because of the new CR tracking database, up-to-date CR reports are now available, sorted various ways, on the CMP website
- Each CR is now assigned a Project Manager so that each CR is now treated within Qwest as a Project
- A Director of Change Management so that the Change Management function within Qwest now has the requisite authority to direct the work necessary to effect the requested changes

The net affect of the above changes is that CRs are now processed by Qwest and presented to the CLEC community in a much more timely manner than before. As a result, CGE&Y closed AZIWO1076.

Deficiency #3, Explanation

“Final” EDI design documents are only released to the CLECs three weeks prior to a new EDI release. Qwest has two answers to this deficiency:

1. “Draft Developer Worksheets,” which are developed by the EDI developers during their design process, are issued to the CLEC community approximately 180 days before a release. They are updated as needed until the release is final.
2. EDI releases are supported by Qwest for six months after the release of a newer version.

The problem with answer #1 above is that the “Draft Developer Worksheets” are exactly that: drafts. Due to their sheer size, however, the fact that they may change over time is a significant hindrance to using them as a design document.

When the above point has been made to Qwest in the past, however, the response has always been answer #2: that a CLEC can always use the previous release for six months after a new release, thus giving them time to use the “final” design documents to modify its system. While true, the obvious problem with this is that it delays CLECs taking advantage of any expanded functionality offered by a new release.

The existence of stable, unchanging requirements is an absolute pre-requisite to CLECs being able to code their own systems to match Qwest’s. CLECs have brought up this issue both to the CICMP manager and their account management teams on numerous occasions, with the same responses, listed above, given every time.

The release of EDI design documents is another topic that is being negotiated through the CMP redesign effort. At the beginning of the process Qwest proposed that it would adhere to the OBF 2233 proposal which calls for the release of draft design documentation 66 calendar days prior to a release and final documentation 45 calendar days prior.

This topic has not reached a consensus state among the core redesign team, but CGE&Y considers the OBF proposal to be a reasonable timeframe in which to release draft and final design documentation. Further, because of the collaborative nature of the redesign process CGE&Y expects that whatever decision is reached as to the timeliness of EDI documentation releases will be acceptable to the majority of the CLEC community. As a result, CGE&Y closed AZIWO1078.

The following table contains specific findings cross-referenced with CGE&Y’s Arizona TSD objectives:

TSD Section 6.6.2.2 Objective	Objective Satisfied?	Source	Comments
(1) Does the Change Management Process information available to the CLECs clearly document the methodology, timing and communication of Qwest OSS software changes and releases?	Y	http://www.qwest.com/wholesale/cicmp/whatisiccmp.html	<p>The four phases of the Qwest OSS development lifecycle are explained in the document titled “Qwest Change Control Process.” The phases are:</p> <ul style="list-style-type: none"> • Initiate • Develop • Deploy • Retire <p>Also included in the above document are intervals for each task involved in the CICMP process, including communications to the CLECs regarding upcoming releases.</p>
(2) Are terms and definitions utilized in the Change Management Process information clearly documented?	Y	http://www.qwest.com/wholesale/downloads/010514/CICMP_Document_051401.doc	<p>Section V of the document titled “Qwest Change Control Process” is titled “Terms and Definitions.” Most terms and their usage were found to be consistent with standard software quality management usage. Instances where a term is unique to the Qwest process, for example “T-Shirt Size,” are adequately explained.</p>
(3) Software releases are periodic and predictable (i.e., appropriately noticed)?	Y	http://www.qwest.com/wholesale/cicmp/calendar.html	The CICMP homepage of the Qwest wholesale website contains a link to a calendar of upcoming releases and their associated milestones.
(4) Does the Change Management Process information available to the CLECs clearly explain how CLECs can request changes to the OSS?	Y	http://www.qwest.com/wholesale/downloads/2000/industry_team_prioritization_process.doc http://www.qwest.com/wholesale/downloads/2001/010313/Co-Pro_Change_Req_Form_Inst_031301.doc	The CR page of the CICMP website contains a brief description of the CR process, as well as links to the CR form and instruction document.
(5) Does CICMP documentation include forms for requesting changes and clear instructions for completing,	Y	http://www.qwest.com/wholesale/downloads/2001/010313/Co-Pro_Change_Req_Form_Inst_031301.doc	The CR page of the CICMP website contains a brief description of the CR process, as well as links to the CR form and complete instruction document.

TSD Section 6.6.2.2 Objective	Objective Satisfied?	Source	Comments
submitting and tracking progress on CLEC CRs?		Form Inst 031301.doc http://www.qwest.com/wholesale/downloads/010605/C_R_Form.doc	
(6) Does the Change Management Process provide for frequent scheduled communications regarding changes to the CLECs?	Y	http://www.qwest.com/wholesale/cicmp/releasenote.html	<p>CGE&Y observed copious communications from the Qwest CICMP manager to the CLECs during the release lifecycles. Examples of such communications were:</p> <ul style="list-style-type: none"> • Preparations for upcoming CICMP meetings • Lists of candidate CRs • Draft Developer Worksheets for EDI • Release notes
(7) Releases issued as part of the Change Management Process are complete, clearly written, and distributed in a timely fashion?	Y	http://www.qwest.com/disclosures/netdisclosure409.html and http://www.qwest.com/wholesale/cmp/redesign.html	<p>The release of EDI design documents is another topic that is being negotiated through the CMP redesign effort. At the beginning of the process Qwest proposed that it would adhere to the OBF 2233 proposal which calls for the release of draft design documentation 66 calendar days prior to a release and final documentation 45 calendar days prior.</p> <p>This topic has not reached a consensus state among the core redesign team, but CGE&Y considers the OBF proposal to be a reasonable timeframe in which to release draft and final design documentation. Further, because of the collaborative nature of the redesign process CGE&Y expects that whatever decision is reached as to the timeliness of EDI documentation releases will be acceptable to the majority of the CLEC community. As a result, CGE&Y closed AZIWO1078.</p>
(8) Does the Change Management Process information available to the	Y	http://www.qwest.com/wholesale/downloads/2000/001	The source document adequately explains the process and provides time intervals in which the steps will

TSD Section 6.6.2.2 Objective	Objective Satisfied?	Source	Comments
CLECs provide a clearly defined escalation process?		201/Escalation_12_0100.doc	be carried out.
(9) If Change Management Processes are located on the internet, are URLs for this information communicated to CLECs via multiple avenues?	Y	N/A	URLs are provided initially by a CLEC's account team. Also, links to relevant websites are provided in all communications from the CICMP manager.
(10) Are the roles and responsibilities of each party clearly communicated in the Qwest Change Management and escalation processes?	Y	http://www.qwest.com/wholesale/downloads/2000/001_201/Escalation_12_0100.doc http://www.qwest.com/wholesale/downloads/010514/CICMP_Document_051401.doc	Every process description contained in the source documents contains tables with columns for Qwest and co-provider (i.e. CLEC) responsibilities.
(11) Does the documentation available to CLECs for Qwest's Change Management Processes clearly identify how CRs will be evaluated and prioritized for inclusion in future releases?	Y	http://www.qwest.com/wholesale/downloads/2000/industry_team_prioritization_process.doc	Source documentation provides detailed descriptions of the processes involved. All CRs will be evaluated by Qwest, who will request more information from the CLEC if necessary. They will then be given a "T-Shirt Size," i.e., level of effort, by the Qwest IT staff. Following this, they will be evaluated and prioritized by the CLECs in the CICMP meetings.
(12) Does the Change Management Process information available to CLECs clearly explain how changes to the process and forms utilized by the process will be accomplished? If so, is it clear how the new process will be distributed and how new forms will be distributed/implemented and the old process and forms retired?	Y	http://www.qwest.com/wholesale/downloads/010514/CICMP_Document_051401.doc	Qwest chartered and convened a "Product and Process" CICMP in December 2000. All processes related to this CICMP are located on the CICMP website.
(13) If utilized, are release life cycles clearly described including all activities required by each segment of the lifecycle?	Y	http://www.qwest.com/wholesale/downloads/010514/CICMP_Document_051401.doc	The four phases of the Qwest OSS development lifecycle are explained in the document titled "Qwest Change Control Process." The phases are: <ul style="list-style-type: none"> • Initiate • Develop

TSD Section 6.6.2.2 Objective	Objective Satisfied?	Source	Comments
			<ul style="list-style-type: none"> Deploy Retire <p>Also included in the above document are intervals for each task involved in the CICMP process, including communications to the CLECs regarding upcoming releases.</p> <p>Thus far, Qwest has planned for two major releases to IMA-GUI and EDI per year.</p>
(14) Is there a process in place to notify CLECs in advance of planned system outages?	Y	N/A	Notification of all planned system outages are sent directly to the CLECs from the IMA system managers, and are likewise relayed through the CICMP manager.
(15) Is there a process in place to notify CLECs of unplanned system outages?	Y		<p>In the fall of 2000, Qwest implemented a notification system called NewsBurst to send mass e-mails to users about urgent IMA happenings</p> <p>Also, Qwest instituted an auto e-mail system to notify those that wish to subscribe of system events.</p>

TSD Section 6.6.2.3	Objective Satisfied?	Source	Comments
(1) Are Qwest methodologies, timing and communications for Change Management carried out in accordance with the Qwest processes and procedures published and available to the CLECs?	Y	http://www.qwest.com/wholesale/downloads/2001/010514/CMP_Document_051401.doc And http://www.qwest.com/wholesale/cmp/redesign.html	The current process satisfying this objective is located at the URL location at left. CGE&Y observed that this process was followed by Qwest. Additionally, the process is being redesigned, with each sub-process being implemented as it is negotiated and agreed upon. The URL for the redesign is also listed at left.
(2) Are the terms and definitions utilized in the Change Management documentation published and available to the CLECs understood by the parties	Y	http://www.qwest.com/wholesale/downloads/2001/010514/CMP_Document_051401.doc	The CMP document contains a Terms and Definitions section that explains all terms that are unique to Qwest. Additionally, the CMP redesign effort is mutually negotiating the definition of terms as the effort progresses.
(3) How are software releases handled? Are releases periodic and	Y	http://www.qwest.com/wholesale/cmp/ossalendar.html	Qwest publishes a 12-month calendar of releases which it adheres to. Additional "point" releases are

predictable (i.e., appropriately noticed) or random			sometimes necessary to correct functionality problems, and these are appropriately noticed.
(4) Do the CLECs and the Pseudo-CLEC understand how they can request changes to the Qwest OSS? Do they understand where to find the necessary forms? If deficiencies exist, what is the root cause	Y	http://www.qwest.com/wholesale/downloads/2001/010514/CMP_Document_051401.doc	The CMP document outlines the entire process. Additionally, the CR form itself contains instructions for its completion. CGE&Y observed no instances of CLECs not knowing where to obtain the required forms or information.
(5) Do frequently scheduled Change Management communications take place with the CLECs? If so, are the communications open and candid?	Y	http://www.qwest.com/wholesale/cmp/teammeetings.html	CMP meetings are held once per month and are one day in duration. There are separate day-long meetings for Systems and Product/Process CMPs. The CMP redesign core team meets every two weeks for at least one day per session. Additional meetings are scheduled as needed to clarify CLEC requirements and discuss other important issues.
(6) Does Qwest follow the documented processes for tracking and monitoring CLEC change requests? Can the CLECs determine the status of their Change Requests without unreasonable effort?	Y	http://www.qwest.com/wholesale/cmp/changerequest.html and http://www.qwest.com/wholesale/downloads/2000/industry_team_prioritization_process.doc	Qwest was observed to follow its stated process. CRs have always been posted on Qwest's website for the CLECs to view, but this process has recently been improved. Qwest has recently implemented a new way to view CRs where CLECs can essentially pull a CR report and choose to sort it a variety of ways. For instance, CRs can now be viewed by initiator, by date, by the date last updated, etc.
(7) Examine a number of randomly selected Release Notes to determine if they were distributed in a timely fashion and if the information was distributed in a fashion allowing CLECs time to properly prepare for change	Y	http://www.qwest.com/wholesale/cmp/releasenote.html	See Section 5.6 of this report.
(8) Are the escalation processes made available to the CLECs by Qwest followed in practice	Y	http://www.qwest.com/wholesale/cmp/escalations_dispute.html	CGE&Y observed one CMP escalation during the evaluation period and found that Qwest followed its published process.
(9) If Change Management Processes, escalation processes or other Qwest processes providing information as to how CLECs communicate, track, or escalate changes are web	Y	http://www.qwest.com/wholesale/cmp/whatiscmp.html	The Qwest website for change management has been satisfactory since the beginning of the evaluation period, but Qwest has made improvements to it throughout to make it easier to navigate and locate needed information.

based, is the information reasonably accessible			
(10) Are the roles and responsibilities of each party with regard to Change Management clearly understood	Y	http://www.qwest.com/wholesale/downloads/2001/010514/CMP_Document_051401.doc	The CMP document clearly outlines roles and responsibilities. Additionally, the redesign process is currently defining new roles and responsibilities for both Qwest and the CLECs that will be in place in the future.
(11) Do CLECs and the Pseudo-CLEC understand how change requests will be evaluated and prioritized for inclusion in future releases? If they don't, what steps could be taken to ensure awareness in the future? Does Qwest follow the release prioritization processes communicated in their Change Management Process	Y	http://www.qwest.com/wholesale/downloads/2000/industry_team_prioritization_process.doc and http://www.qwest.com/wholesale/downloads/2001/011121/PropCRPrioritizationLang11-20-01.doc	The Prioritization document (see URL at left) contains the process by which CRs are prioritized. As CGE&Y has previously commented in this report, the prioritization process was deficient in that it only included CLEC-initiated CRs. That fact notwithstanding, the actual process was well documented and understood. The second URL at left contains Qwest's latest proposed language for prioritization under the redesign. The issue of prioritization is still under discussion and has not reached consensus.
(12) Are changes to the Change Management Process executed in accordance with the information communicated in the Qwest Change Management documentation available to the CLECs	Y	http://www.qwest.com/wholesale/downloads/2001/010514/CMP_Document_051401.doc and http://www.qwest.com/wholesale/cmp/redesign.html	Prior to convening the CMP redesign effort, changes to the CMP itself could be made through the Product and Process CMP. The redesign effort is redesigning the entire process from the ground up. Any suggested changes to the process are brought to the redesign meetings. The redesign team has not yet outlined a procedure for making changes to the process once the redesign meetings are concluded and the process implemented.
(13) Are release life cycles clearly communicated and does Qwest adhere to announced future releases as described in their Change Management Process	Y	http://www.qwest.com/wholesale/cmp/ossalendar.html	Qwest maintains a 12-month calendar of planned releases to their CLEC interfaces. This schedule includes point releases and also the dates at which current releases will be retired.
(14) Does Qwest provide a development/change management test bed for use by the CLECs to test new development or changes before they are implemented? Does the test bed contain sufficient functionality and are proper test bed operating	Y	http://www.qwest.com/wholesale/downloads/2001/011203/IMA_EDI_Implementation_Guidelines_8_0_CURRENT_VERSION.doc and	CGE&Y issued AZIWO1044 to document Qwest's lack of a stand-alone test environment for use by CLECs in their EDI testing efforts. Qwest created such an environment and made it available to CLECs on 1 August 2001. The IWO was closed. Procedures for the use of the Stand-Alone Test Environment (SATE)

<p>procedures in place to allow CLECs sufficient opportunity to implement changes in a timely fashion?</p> <p>Is the test bed consistent with the capabilities and functionalities of the production environment?</p> <p>Can CLECs obtain certification from Qwest for updated releases through test bed testing or must certification also include production testing</p>		<p>http://www.qwest.com/wholesale/downloads/2001/011128/DataDocumentV8.07.doc</p>	<p>are contained in Qwest's EDI Implementation Guide.</p> <p>The functionality of Qwest's SATE is not being evaluated as part of CGE&Y's 271 OSS evaluation, but is being evaluated separately.</p> <p>CLECs can use the SATE for progression (i.e., interoperability) testing, but still must complete controlled production testing prior to certification.</p>
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6. Support Processes

The communications, documentation, and processes summarized in the following sections provided the structure and openness required for the Arizona §271 Test. The requirements made the Test one of the most thorough tests of an ILEC's OSS performed to date.

6.1 Communications

The communications processes employed during the Arizona §271 Test were designed to maximize openness between all parties throughout the test process. This openness was accomplished through a range of formal communications described in the sub-sections that follow. These communications ensured that test plans, test results, and supporting documentation would be shared and openly discussed among all parties. The extensive use of listen lines, regular meeting schedules, Incidental Contact Reports (ICR), and publication of agendas and minutes guaranteed that parties would be included in the discussion of issues, decisions and actions during all phases of testing. The establishment and operation of the TAG and its subcommittees was critical to the goal of open testing. Aspects of the Communications Process are also summarized within the Support Processes Section of this report. (See Section 6.3.6)

6.1.1 Test Advisory Group (TAG)

The TAG was established at the beginning of test activities, in December, 1999. The TAG consisted of the ACC, DCI, CGE&Y, the Pseudo-CLEC, Qwest and those CLECs and other participants who desired to participate. The purpose of the TAG was to act as a collaborative body, insuring openness and consensus throughout the test process. The TAG also functioned as a communications mechanism to advise all parties of test results, exceptions and corrective action and to provide CLEC feedback to the parties planning and performin the testing.

The TAG conducted bi-monthly and event related conferences, either in person or by teleconference. This meeting schedule was maintained on an as required basis.

CGE&Y facilitated TAG meetings throughout the project. Three business days prior to each scheduled TAG meeting, CGE&Y distributed a preparatory packet to the TAG members. This packet consisted of:

- Agenda
- Minutes from previous meeting
- Calendar
- Master Issues Log / Action Items
- Incidental Contact Report
- IWO Status

Three business days after each TAG meeting, CGE&Y distributed meeting minutes. A two-day TAG comment period followed this distribution of minutes after which updated meeting minutes were finalized.

6.1.2 Problem Solver Meeting

The purpose of the Problem Solver meeting was to review and discuss the Project Plan, and related test problems. The Problem Solver meeting was held on a weekly basis, and was previously known as the Work Structure Reporting Meeting prior to calendar year 2001. The participants were the ACC, DCI, CGE&Y, the Pseudo-CLEC, and Qwest. A listen line was provided to the CLECs.

CGE&Y facilitated the Problem Solver Meeting. Prior to the call, CGE&Y distributed the updated Project Plan. The full Project Plan was distributed to the ACC, the Pseudo-CLEC and CGE&Y. A dates-redacted version was distributed to the remaining members of the TAG. No formal agenda was produced for the meetings and no minutes were produced.

Problems not resolved in this forum were moved to the Qwest Executive Level Meeting.

6.1.3 Qwest Executive Level Meeting

The purpose of the Qwest Executive Level meeting was to address issues not resolved in the Problem Solver meeting. These meetings began in January 2001, and were held weekly. The participants were the ACC, DCI, the Pseudo-CLEC, CGE&Y and Qwest. A listen line was provided to the CLECs.

This meeting was facilitated by the ACC. Prior to the meeting, the ACC or CGE&Y distributed an agenda that consisted of action items to be reviewed. Action items not resolved were carried forward to the next week's agenda. No minutes were produced.

6.1.4 Weekly Arizona Corporation Commission (ACC) Update Meeting

The purpose of the Weekly ACC Update meeting was to provide clarification and coordination of consultant activities and was a communication vehicle between the ACC, DCI, HP and CGE&Y.

This meeting had no formal agenda or minutes published.

6.1.5 Interim Final Report Workshops

As part of the collaborative approach to OSS testing in Arizona, Interim Final Reports were released for the Retail Parity Evaluation, the Relationship Management Evaluation, the Capacity Test, and the Functionality Test.

Fourteen days after the release of each of these Interim Final Reports (21 days for the Functionality Test), parties could submit pre-filed questions to CGE&Y. CGE&Y responded in writing at least two days prior to the workshop scheduled for the appropriate Interim Final Report. The workshops were scheduled as follows:

Date Scheduled	Workshop
August 7 to 10, 2001	Retail Parity Evaluation
September 25 to 27, 2001	Relationship Management
October 25 & 26, 2001	Capacity
November 27 to 30, 2001	Functionality
December 12 to 14, 2001	SATE / Data Reconciliation
December 17 & 18, 2001	CMP
January 15 to 18, 2002	Final Report of merged Interim Reports

DCI facilitated the Interim Final Report Workshops. Parties could file briefs after each workshop, which are on record with the ACC.

6.2 Documentation

CGE&Y produced formal documentation of §271 Test planning, execution, and results and made this formal documentation available to parties throughout the life of the project. The MTP and TSD were the guiding documents of the Arizona §271 Test. The Interim Final Reports along with extensive support documentation records the execution and results of the test plans. The following sub-sections highlight some of the more critical test documentation.

6.2.1 Master Test Plan (MTP)

This MTP set forth the approach, scope and focus, timeline, roles and responsibilities, testing phases (planning, preparation, execution, and analysis/reporting), and all associated required activities for the testing of the CLEC access that Qwest provides to its OSS.

The MTP was originally created by DCI. DCI's Draft MTP was distributed to all participants in the Arizona 271 proceeding. Following the first workshop, a Request for Proposal (RFP) for conducting a comprehensive Third Party Test of Qwest's OSS was issued. Parties were allowed to comment on the proposals submitted and the ACC subsequently conducted a series of vendor interviews. Selections of a Third Party Test Administrator and a Third Party Test Transaction Generator were made in the fourth quarter of 1999. Parties' comments and suggestions concerning the Draft MTP defined the agenda for the remaining workshops. At the last workshop, the parties established the TAG. Through these workshops and subsequent TAG meetings, significant changes were made to the MTP based on all TAG members' input and comments. The MTP was baselined at Version 4.0 by CGE&Y, subject to ACC approval, on

March 23, 2000. Testing was initiated from this baselined MTP and its successor versions.

CGE&Y issued the current updated MTP Version 4.2, on June 29, 2001. The chronology of this document is shown in the following table:

Document Milestones	Date
DCI - Test Plan Outline Defined	8/5/99
DCI - Draft Arizona OSS Test Plan to the ACC	8/20/99
DCI - Draft Arizona OSS Test Plan distributed to Qwest and CLECs	8/30/99
DCI - Draft Arizona OSS Test Plan presented at 1 st Workshop	9/13/99
DCI - Test Plan Revision: Issue 1.1	9/23/99
DCI - Test Plan Revision: Issue 1.2	10/7/99
DCI - Test Plan Revision: Issue 1.3	10/15/99
DCI - Test Plan Revision: Issue 1.4	11/1/99
DCI - Test Plan Revision: Issue 1.5	11/15/99
DCI - Test Plan Revision: Issue 1.6	11/16/99
DCI - Test Plan Revision: Issue 1.7	11/17/99
DCI - Test Plan Revision: Issue 2.1	12/10/99
DCI Transferred MTP Document to CGE&Y	1/14/00
CGE&Y – Draft 3.0	1/31/00
CGE&Y – Draft 3.1	2/18/00
CGE&Y – Draft 3.2	3/7/00
CGE&Y – Baselined MTP Version 4.0	3/23/00
CGE&Y – Version 4.1	2/2/01
CGE&Y – Version 4.2	6/29/01

The MTP describes the following test sections:

- The Performance Measurement Evaluation** consisted of a Performance Measurement Audit and Performance Measurement Evaluations performed during the Functionality and Capacity Tests. The Performance Measurement Audit was released as a separate document and is not included in the Final Report of the Qwest OSS Test. The Performance Measurement Evaluations are in the Functionality and Capacity sections of this Final Report.

- **The Functionality Test** was designed to provide information that the ACC could use to address the ability of Qwest's OSS to provide operational functionality to CLECs.
- **The Retail Parity Evaluation** was designed to provide the ACC with the information it required to assess Qwest's ability to provide CLECs with non-discriminatory access to its OSS.
- **The Capacity Test** was designed to provide information which the ACC could use to assess the capability of Qwest's OSS to handle loads equal to or greater than those projected by the various CLEC participants for estimated volumes projected one year from the date of the running of the Capacity Test. This test provided the ACC with the information it needed to evaluate Qwest's OSS and staff scalability.
- **The Relationship Management Evaluation** was designed to provide information that the ACC could use to determine whether the methods, procedures and information which Qwest employs to communicate with the CLECs are effective.

6.2.2 Test Standards Document (TSD)

The Arizona TSD was created to describe how the 271 OSS tests and evaluations would be executed. The TSD contains a test approach and detailed test procedures and criteria, including entrance and exit criteria. The TSD was finalized through the collaborative TAG process, which enabled the CLECs to identify their specific testing needs and concerns, and provided them an opportunity to offer significant input to the testing.

The TSD was created by CGE&Y, with the first release going to the TAG on January 31, 2000. Subsequent revisions were made through the collaborative TAG process, and the final version, TSD 2.10, was released on September 6, 2001.

The chronology of the TSD document is shown in following table:

Date	Revision
1/31/2000	TSD version 2.0 distributed to TAG
2/7/2000	TSD version 2.1 distributed to TAG
2/25/2000	TSD version 2.2 distributed to TAG
3/27/2000	TSD version 2.3 distributed to TAG
4/18/2000	TSD version 2.4 distributed to TAG
5/8/2000	TSD version 2.5 distributed to TAG
5/19/2000	TSD version 2.6 distributed to the TAG
6/24/2000	TSD version 2.7 distributed to the TAG
1/26/2001	TSD version 2.8 distributed to the TAG

6/29/2001	TSD version 2.9 distributed to the TAG
9/6/2001	TSD version 2.10 distributed to the TAG

The TSD defined the detail of the testing process, with detailed descriptions of the following:

- End-User Friendlies
- Functionality Test
- Retail Parity Evaluation
- Capacity Test
- Relationship Management Evaluation
- Performance Measurement Evaluation

The TSD test approach defined the test phases for each of the test/evaluations, and the required entrance criteria, activities, and exit criteria.

The TSD defined multiple checkpoints including daily reports, regularly scheduled meetings with the TAG, formal meetings with the ACC, and formal milestone checkpoints.

6.2.3 Test Case Templates

Test Case Templates were used by the CGE&Y testing teams to record testing progress by cell and scenario. The cell and scenario definitions were incorporated from Appendix A of the MTP. Testing progress was recorded as actual testing was completed; this testing progress is shown in status fields, and iteration and order counts and percentages. Detail may be found both in the body of the individual report sections of this Final Report and in archive files referenced in those report sections.

6.2.4 CGE&Y/HP Interface

Each of the Interim Final Reports describes the roles and responsibilities of CGE&Y and HP and their interfaces. In general, CGE&Y sent test scripts to HP that it, in turn, submitted through its gateway to Qwest. HP then provided Qwest's responses (FOC, SOC, REJ, JEP) to CGE&Y for analysis.

In addition, there is an HPC – CGE&Y Interface Requirements for 271 Test Generator (Ver 1.0) report that provides detailed specifications of the transactions to be collected by HP, and provided to CGE&Y. This report is highly confidential and is not referenced in this document.

6.2.5 Performance Measurement Audit (PMA) Report

The PMA was an audit of the approved Performance Measures in Arizona. This audit consisted of an evaluation of procedures for documentation, data collection processes, calculation and other processes Qwest applied in providing

performance measurement information to the CLECs in the state of Arizona. The PMA Report was released as an interim and final report with input from the TAG at each milestone. The Final PMA Report was released as a separate report, and is not part of the Final Report of the Qwest OSS Test. There were 128 IWOs created during the Performance Measurement Audit. The release schedule is shown in the following table:

Date	Version	Reason
10/6/00	Draft v.1	Initial report
12/8/00	Draft v.2	Pre-order Measures Order & Provisioning Measures
2/20/01	Draft v.3a	Complex Ordering & Provisioning Measures
3/1/01	Draft v.3b	Billing Measures
3/27/01	Draft v.3c	Maintenance & Repair Measures
6/12/01	Draft v. 4	Non-functionality Measures
11/1/01	Final v. 1	Red-lined Finalized report
12/21/01	Final	Final Report

6.2.6 CLEC Report

The CLEC Report was distributed to CLECs, the ACC and DCI during testing. The report was produced on a regular basis starting in January, 2001. It showed summarized test results in a single record transaction overview by tracking number. The report showed when transactions were submitted, and when the last FOC and SOC were received for the tracking number indicated. The report detail included:

- Pseudo-CLEC Tracking #
- PON
- Process Area
- Transaction Media
- Date Submitted
- Date Completed
- FOC Received
- SOC Received

6.2.7 Project Plan

CGE&Y managed the Master Project Control Schedule. The Master Project Control Schedule integrated and incorporated work breakdown structures for all test activities. CGE&Y monitored detailed activity plans and schedules to measure milestone achievement and percent completion of each task. This monitoring was performed weekly and Project Plan status was provided to the TAG at appropriate levels of summarization.

6.3 Processes

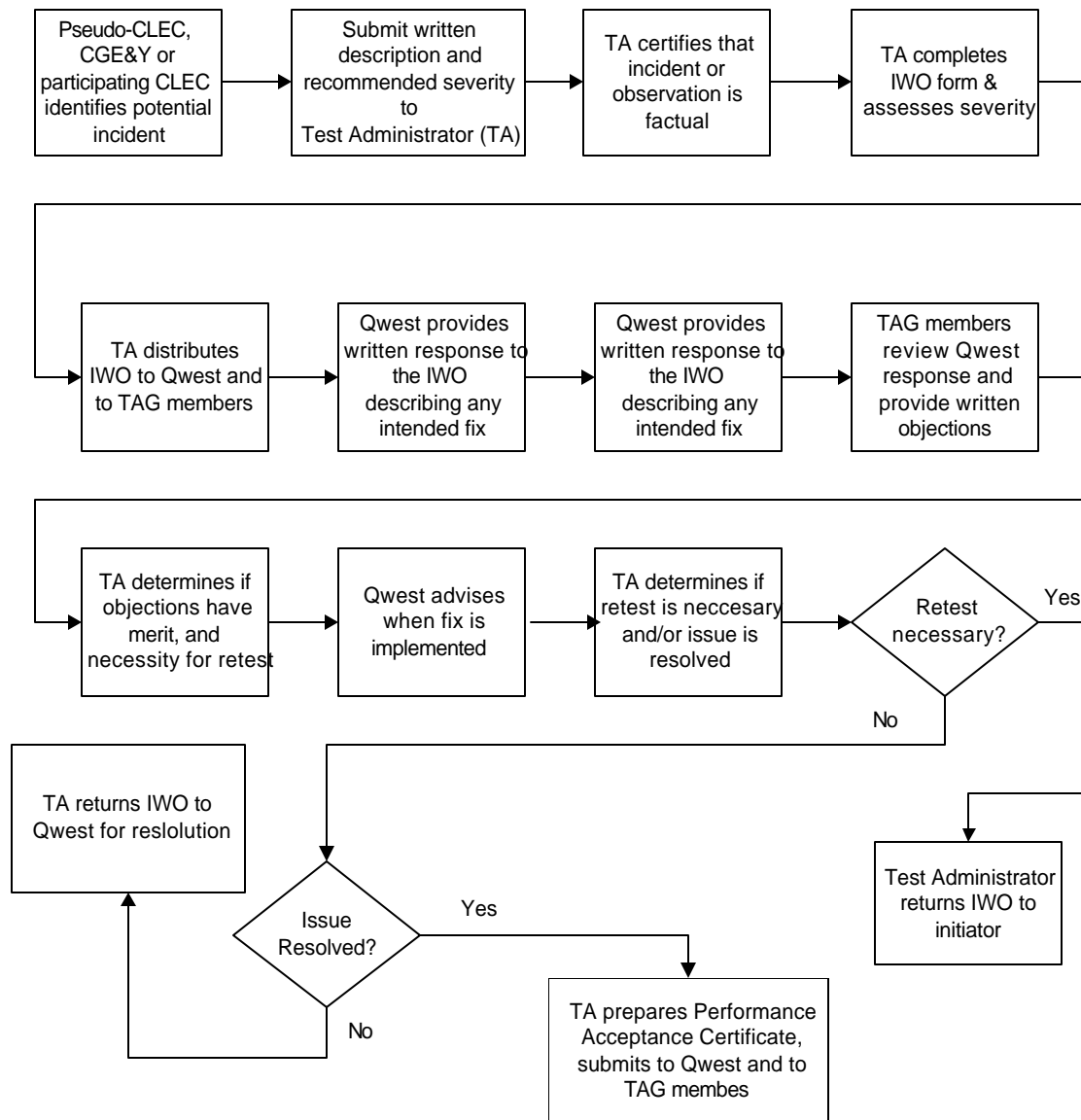
The following section contains brief descriptions of processes required for the test effort.

6.3.1 Incident Work Order (IWO) Process

IWOs were issued to identify and report incidents where an interface, system or process tested or discovered by the Pseudo-CLEC or CGE&Y was suspect or did not meet objective criteria, standards or expectations. The IWO process also served as a tracking device to ensure that all incidents were corrected within a reasonable time frame depending on the severity of the problem. IWOs were not issued on the creation process of the test bed accounts. To obtain more detailed process procedure, including sample IWO forms, refer to Appendix I of the TSD.

All incidents were forwarded to CGE&Y. The CGE&Y coordinator assigned a tracking number to the document, assessed the severity level and forwarded to Qwest and the TAG for a resolution. CGE&Y tracked the incident through completion and reported any updates or missed commitments by any party to the TAG membership. All incidents were documented by CGE&Y and stored for the duration of the project.

IWO PROCESS



6.3.2 Test Exception Process

The Test Exception Process is a formal process which includes retesting, when an interface, system or process tested does not meet established criteria, standards or expectations, in order to resolve the test exception. Retesting was performed for IWOs in Billing, Functionality, and the Retail Parity Evaluation. Results of retesting are shown in updated IWO tables in the appropriate Final Reports.

The process includes the following steps:

- An interface, system, or process tested by the Pseudo-CLEC and/or CGE&Y does not meet objective criteria, standards or expectations.
- CGE&Y creates an IWO describing the issue(s) raised after certifying that the failing is factual. (See IWO Process.)
- Interested parties file comments, if applicable, regarding the exception and the resolution and retesting steps. Retesting, if determined necessary by the TAG, is performed to determine if the fixes by Qwest have resolved the problems causing the test case to fail. All criteria for the test must be passed at this point.
- CGE&Y prepares the retest, including test scripts and cases for use by the Pseudo-CLEC, as needed.
- If the retest results meet the criteria, standards, or expectations, then the process is considered complete and the Performance Acceptance Certificate (PAC) is reviewed with the TAG in accordance with Appendix I of the TSD.
- If the applicable criteria have not been met, the process is repeated until the criteria are met, or Qwest notifies CGE&Y that no further work will be done to resolve the exception.

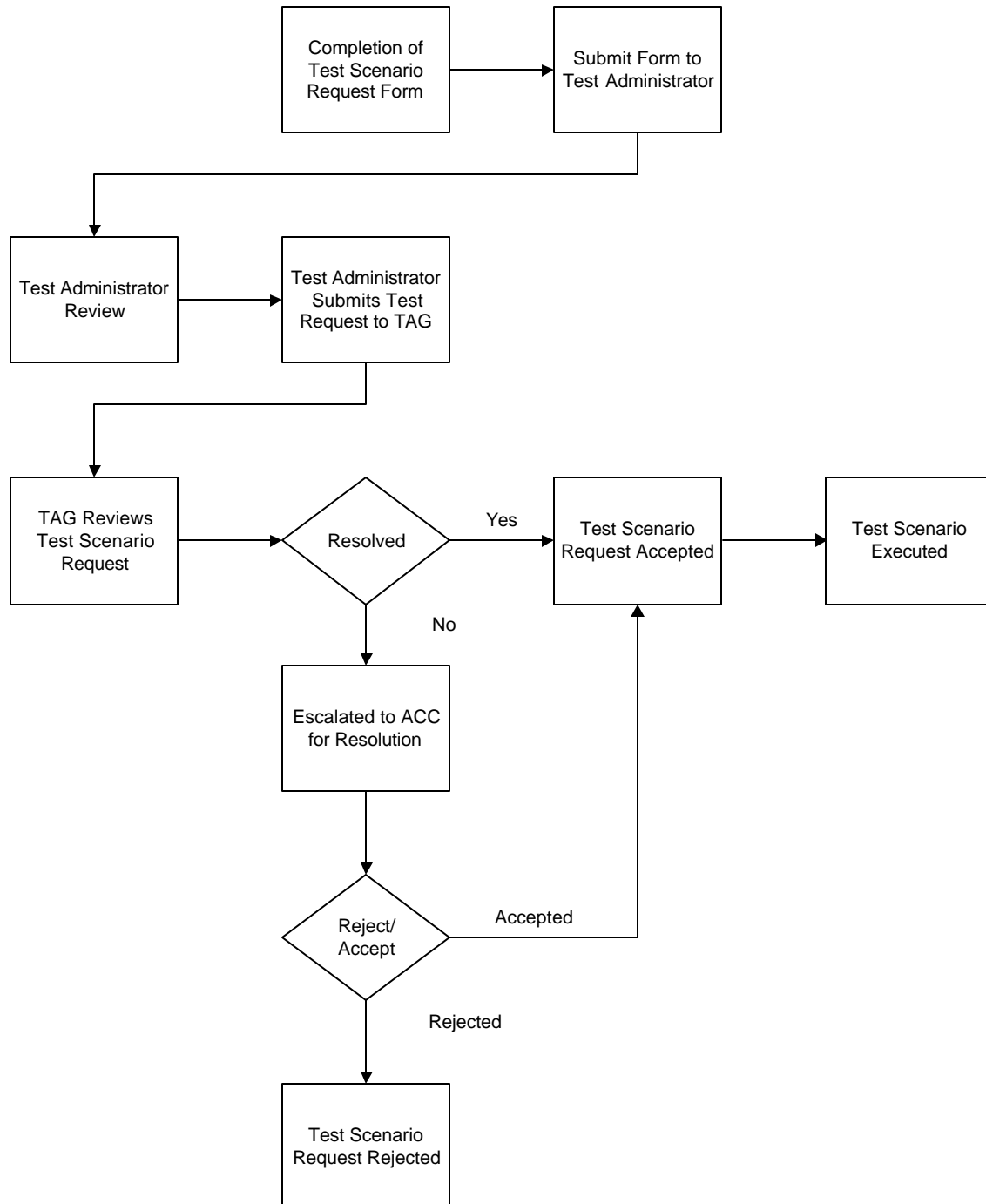
6.3.3 Incidental Contact Report (ICR) Process

The purpose of the ICR Process is to record all incidental contacts between CGE&Y and Qwest as well as between HP and Qwest. A report of incidental contacts is created and delivered with the TAG packet prior to each TAG meeting. An ICR template was used by affected personnel to record all incidental contacts with Qwest personnel.

6.3.4 Test Scenario Request Process

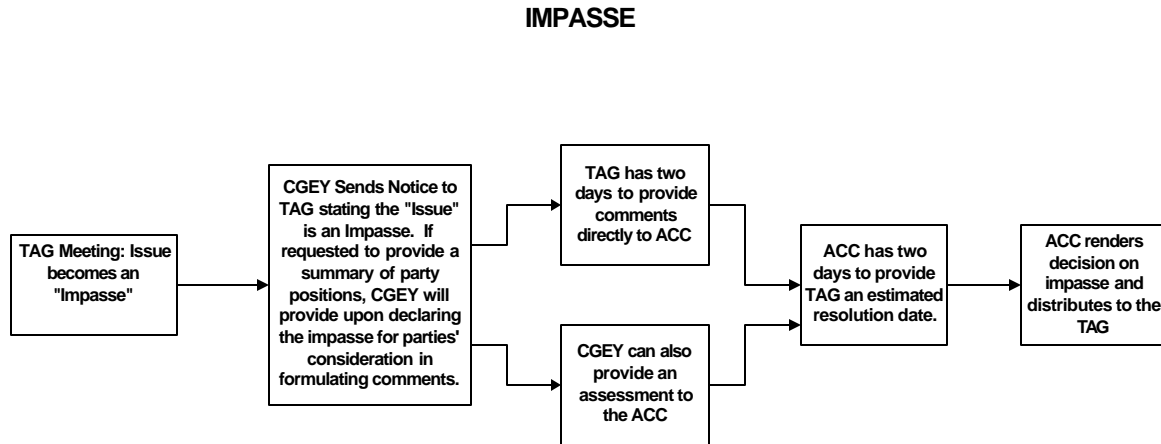
The Test Scenario Request Process is shown in the flowchart below:

TEST SCENARIO REQUEST PROCESS



6.3.5 Impasse Process

The purpose of the Impasse Process was to resolve TAG issues that reached an impasse between the TAG members. The process of communication and ACC resolution is described below.



6.3.6 Communication Process

The Communication Process was implemented to build a quality process for CGE&Y communications with the ACC, DCI, Qwest and the Industry. The steps of this process are as follows.

A stakeholder could request information (e.g. deliverable, issue resolution, etc.) of a CGE&Y project member directly, via conversation during a meeting or by e-mail. The preferred method of submission was via e-mail to the Sedona@usa.capgemini.com mailbox. If the stakeholder did not submit a request via the Sedona mailbox, it was the responsibility of the CGE&Y team member receiving the request to send an e-mail to the Sedona mailbox summarizing the details of the request from the stakeholder.

The CGE&Y Communication Manager continually monitored the Sedona mailbox. The Communication Manager replied to the stakeholder via e-mail advising that the request has been received by CGE&Y, and included a restatement of the request. If the requestor did not reply by Close of Business (COB) the following day, the Communication Manager's reply was considered an accurate reflection of their request.

If a due date could not be met, CGE&Y contacted the requestor to notify them of the delay and negotiate a new delivery date.

When a request was completed, the Communication Manager sent, via e-mail, the finalized response to the stakeholder. If there was no objection from the requestor by COB the following day, the resolution was considered accepted and the item was closed by CGE&Y.

All correspondence sent to a stakeholder required a courtesy copy to the remainder of the ACC/DCI distribution list.

6.3.7 Openness Report Process

Regularly scheduled meetings or calls between CGE&Y and Qwest were open to the CLECs through the establishment of a listen line. CGE&Y e-mailed TAG members, with a 24-hour lead time, the date and time of the call and the listen line number. The CLECs were also allowed to submit comment on these calls to the CGE&Y Project Manager and all TAG members within two days of each call.

The only contacts between CGE&Y and Qwest that were not subject to this openness requirement were unscheduled, incidental contacts. However, in such cases CGE&Y advised the ACC of any such contacts before they occurred to allow the ACC and/or DCI to participate. The CLECs subsequently were apprised of all calls or contacts and the purpose of them at the next regularly scheduled TAG meeting. The CLECs were also apprised of any conclusions reached in those calls or contacts. The rule was one of openness and the ACC expected such incidental contacts to be kept to an absolute minimum, with virtually all issues involving Qwest discussed in either a regularly scheduled call with Qwest or the TAG as appropriate.

Executive Sessions between CGE&Y and Qwest were necessary to discuss such issues as the company's assessment of competitive market transaction volumes regarding capacity tests and the programming and system design of Qwest's performance measurements computer systems for data collection and processing. To the extent possible, CGE&Y provided notice of all Executive Sessions and a listen line was made available. The CLECs were kept informed of all topics discussed at all Executive Sessions. The ACC and/or DCI took part in all such sessions and to the extent they could without divulging proprietary data, reported any conclusions of those sessions at the next regularly scheduled TAG meeting.

6.3.8 Master Issues Process

The Master Issues Process provided a structure to track issues, actions, and resolutions discussed in the TAG meetings. CGE&Y maintained the log, and

provided tracking and follow-up on the issues and actions recorded in the log. Issues progressed to action items based on the TAG meeting process. The Master Issues/Action Log was included in the TAG packet.

The Master Issues Process was included issues and actions discussed in the TAG meeting. Therefore, entries in the Master Issues /Action Log may show overlap in content with IWOs and Data Request entries.

6.3.9 Data Request Process

The Data Request (DR) Process provided a procedure for CGE&Y to request business rules, procedures, or data from Qwest. The process steps were as follows:

1. CGE&Y's communication manager entered a request into the DR log, and assigned a tracking # and a due date.
2. CGE&Y's communication manager forwarded the DR to Qwest with a request description, tracking #, initiator, and due date.
3. Qwest responded to the request with a Qwest tracking #.

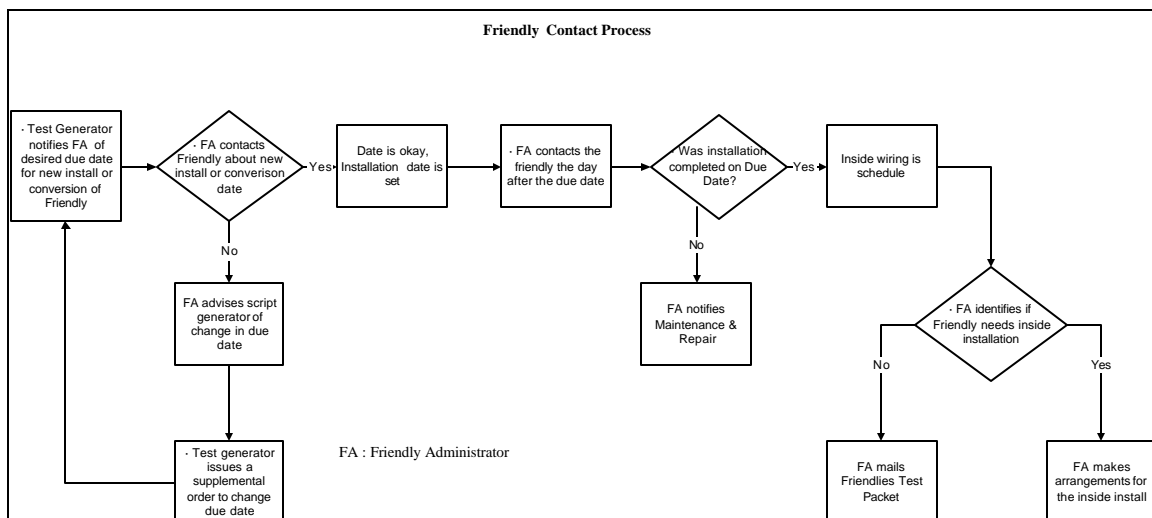
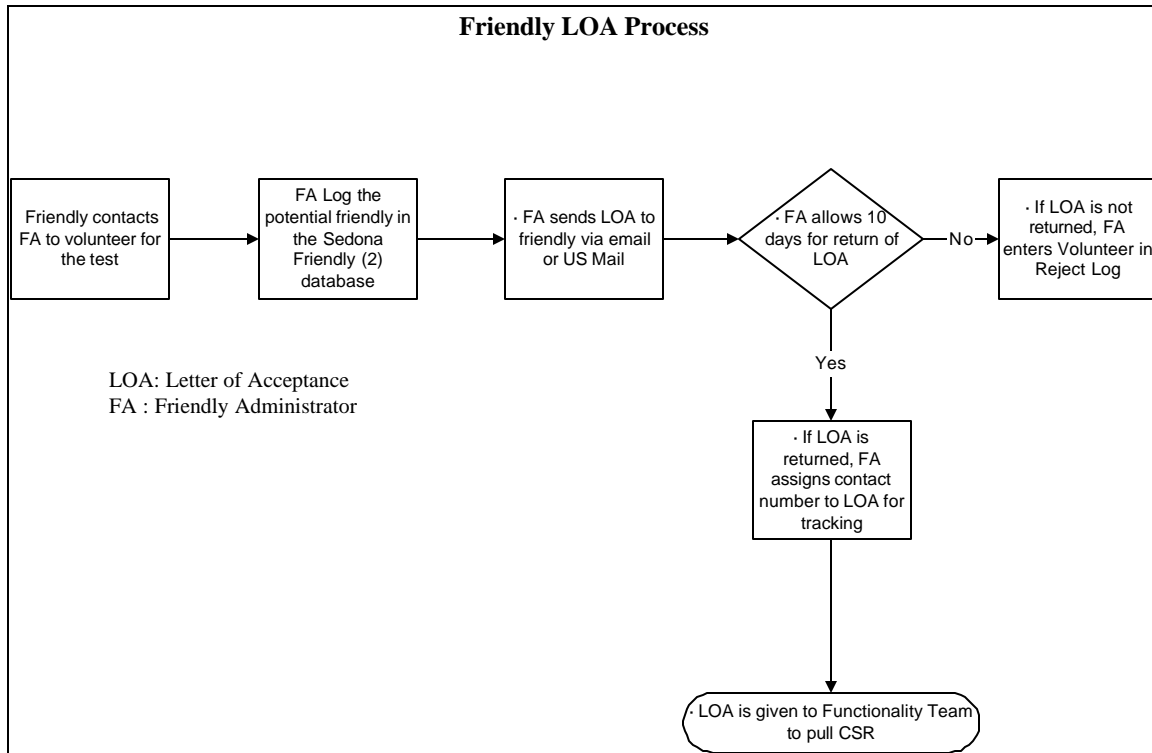
DRs were made available to the TAG with the issuance of the interim final reports.

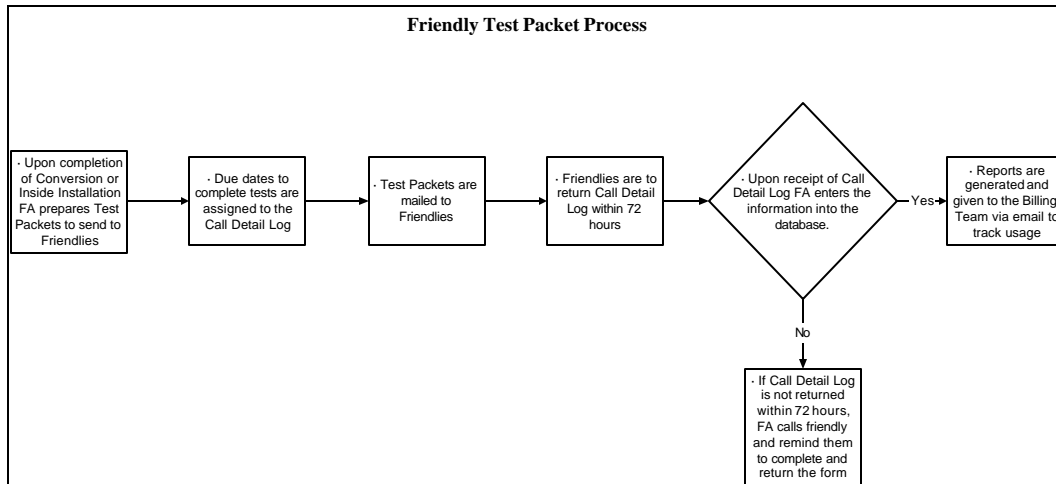
6.3.10 Friendlies Process

End Users (Friendlies) were individuals within Arizona for which the §271 test was being conducted who volunteered their physical location to establish test lines. In addition, volunteers were offering their time to aid in the verification of Qwest provisioning and repair operations and the generation of real-world usage and billing data.

Friendlies were recruited and managed by CGE&Y. The recruitment of Friendlies was carried out in a manner approved by the ACC. Solicitations targeted CGE&Y employees, state government employees, CLEC employees, and Qwest employees as approved by the ACC.

The following are flowcharts representing Friendly processes:





6.3.11 AT&T/HPC/CGE&Y Interface Process

This process was used by AT&T, HP and CGE&Y in support of UNE-L and LNP test cases.

Roles specific to this process were:

- AT&T worked with HP (the Pseudo-CLEC) to provision and test unbundled loop and LNP services. AT&T dedicated vacant collocation facilities to be used when processing these types of orders and acted as the engineering/switching group for HP. AT&T identified collocation sites and the dedicated facilities, which served as HP's facility inventory for the duration of the testing.
- CGE&Y was responsible for assignment of the facilities to specific orders and documented this information on the associated test script. CGE&Y maintained the facility list inventory as orders were installed or disconnected, and ensured that only the vacant facilities were assigned to orders.

Details of the communication processes and responsibilities of each of the parties involved can be found in the process sub-sections of Section 2 Functionality Test and in Appendix F of this Final Report.

6.3.12 WorldCom/CGE&Y Interface Process

This process was used by WorldCom and CGE&Y in support of EB-TA.

Roles specific to this process were:

- CGE&Y worked with WorldCom to test EB-TA. CGE&Y was responsible for producing test scripts for EB-TA testing. CGE&Y acted as the point of contact to answer calls from Qwest's technicians.
- WorldCom transmitted test trouble tickets, and received trouble ticket responses. WorldCom provided responses and results to CGE&Y.

Details of the communication processes and responsibilities of each of the parties involved can be found in the process sub-sections of Section 2 Functionality Test of this Final Report.

6.3.13 COVAD/CGE&Y Interface Process

This process was used by COVAD and CGE&Y in support of line sharing and DSL.

Roles specific to this process were:

- CGE&Y worked with COVAD to test line sharing and DSL. CGE&Y was responsible for producing test scripts and providing addresses for the testing performed by COVAD.
- COVAD entered CGE&Y test orders through one of their ISPs. COVAD provided details by tracking number of results of each test to CGE&Y.

Details of the communication processes and responsibilities of each of the parties involved can be found in the process sub-sections of Section 2 Functionality Test of this Final Report.

7. Findings/Conclusions/Recommendations

This section summarizes the findings and conclusions from four test and evaluation areas: Functionality Test, Retail Parity Evaluation, Capacity Test, and Relationship Management Evaluation. The initial findings were made as a result of the test execution that culminated with the publication of the four Interim Final Reports. Subsequent retest and re-evaluation either supported the initial findings or led to new findings. These final sets of findings are reflected in this section as well as in the body of the individual test and evaluation sections of the Final Report.

IWOs that were created by CGE&Y, but later deemed Not Applicable or were Withdrawn are not included in the IWO totals in this section. See Appendix B for all IWOs.

7.1 Functionality Test

Conclusion

CGE&Y concludes that Qwest provides sufficient electronic functions and manual interfaces to allow competing carriers access to all of the necessary OSS functions in Arizona. This conclusion is supported by test activity, observations, and system, procedural and metric improvements that Qwest has made in response to IWOs generated during this Functionality Test. Qwest made hundreds of system, process, and documentation improvements as a direct result of the execution of the OSS Test, PMA, and Data Reconciliation efforts.

In cases where there was disparity in performance measures, CGE&Y recommends review of commercial data to draw conclusions of parity between wholesale and retail going forward.

Findings

CGE&Y's review of Qwest's OSS identified a number of documentation, process, training and system issues. Appendix I of the TSD established the methodology for creating IWOs to record, investigate, and provide resolution for issues encountered during testing. CGE&Y created 169 IWOs during the Functionality Test/Retest to address these issues. Of the 169 IWOs, 30 IWOs were subsequently Withdrawn or were deemed Not Applicable. One Hundred Thirty Nine IWOs were issued, responded to, verified, and subsequently closed.

The following table identifies the functional areas tested and classification of the IWO findings. This table does not include the 30 IWOs that were withdrawn.

	OSS Change	System Tables	Training	Procedure	Metrics	Documentation	TOTAL
Pre-Order	11	1	1	0	0	4	17
Order/	21	3	8	9	0	5	46

	OSS Change	System Tables	Training	Procedure	Metrics	Documentation	TOTAL
Provision							
M&R	4	2	1	1	0	0	8
Billing	7	1	11	12	0	0	31
Performance Measures	1	0	1	6	29	0	37
TOTAL	44	7	22	28	29	9	139

Of the 139 closed IWOs, 44 resulted in Qwest system improvements. CGE&Y is encouraged by the positive impact these improvements have had on the CLEC's ability to process pre-order, order, M&R and billing transactions.

These IWOs were issued, responded to, verified, and subsequently closed, based on a combination of retest and re-evaluation. This includes Qwest improvements to systems and procedures, re-examination of test procedures and assumptions, and data reconciliation.

Pre-Order

CGE&Y reported statistical findings for the Pseudo-CLEC and aggregate commercial CLEC results for the following pre-order measures:

- LSR Rejection Notice Interval (PO-3)
- FOCs On Time (PO-5)
- Billing Completion Notification (PO-7)
- Jeopardy Notice Interval (PO-8)
- Timely Jeopardy Notices (PO-9)

Based on Pseudo-CLEC results, and commercial CLEC results where insufficient Pseudo-CLEC data were available, CGE&Y found that Qwest provided disparate or below benchmark service for 7 individual disaggregations. These disaggregations included LSRs submitted via EDI and rejected manually, manually returned LNP resale aggregate FOCs on time submitted via EDI, manual and failed flow-through LNP FOCs returned on time, jeopardy notice interval for non-designed orders, and timely UNE-P jeopardy notices. CGE&Y issued five IWOs (AZIWO1108, AZIWO2108, AZIWO2126, AZIWO2109, and AZIWO2111) in response to these performance failures and validated that Qwest had instituted fixes to address the issues and/or performance had improved for the retest period.

CGE&Y observed instances when address validation transactions did not return the appropriate responses. Three IWOs were created during pre-order testing and were resolved based on the success of address validations during retest, and by the identification of Pseudo-CLEC errors. (AZIWO2117, AZIWO1089, AZIWO1047)

Order

CGE&Y reported statistical findings for the Pseudo-CLEC and aggregate commercial CLEC results for the following ordering measures:

- Installation Commitments Met (OP-3)
- Average Installation Interval (OP-4)
- New Service Installation Quality (OP-5)
- Delayed Days (OP-6)
- Coordinated Cuts On Time (OP-13)

Based on Pseudo-CLEC results, and commercial CLEC results where insufficient Pseudo-CLEC data were available, CGE&Y found that Qwest provided disparate or below benchmark service for 15 individual disaggregations. These disaggregations included installation commitments met for dispatched and non-dispatched residential, dispatched business outside an MSA, and designed ISDN BRS orders; installation intervals for dispatched business, non-dispatched Centrex, ISDN BRS, PBX, and UNE-P, and designed ISDN BRS and PBX orders; new service installation quality for megabit orders; and delayed days for dispatched business orders. CGE&Y issued five IWOs (AZIWO2110, AZIWO2107, AZIWO2100, AZIWO2104, and AZIWO2123) in response to these performance failures and validated that Qwest had instituted fixes to address the issues and/or performance had improved for the retest period. For all other disaggregations where sufficient data were available, CGE&Y found that Qwest was providing parity service or met the appropriate benchmark.

CGE&Y found that Qwest did not deliver a SOC on completed orders approximately 25% of the time. (AZIWO1045) Qwest has implemented system changes and monitoring processes that have resolved this IWO. CGE&Y conducted a retest to verify that Qwest sent SOC to the Pseudo-CLEC for each order via the Loss and Completion Report. During the retest activities, 130 selected orders received a SOC as expected, 65 each, between the two order submission systems, EDI and IMA systems. The Loss and Completion Report was received from Qwest on a daily basis, Monday – Saturday. Of the 130 orders, 121 orders received an order completion notification within the expected time frame. For the remaining 8 orders, the notification of order completion was received after the expected time frame Due Date plus one (DD + 1). Seven of the nine orders that the notification was received late were submitted using the EDI system. One order completion was submitted using the IMA system. For the one IMA order, completion notification appeared to be late according to the Loss and Completion Report. CGE&Y submitted Data Request-259 to clarify the order status. In Qwest's response they cited IMA Reference Guide Chapter 3 as a suggested method for the Pseudo-CLEC to monitor order statuses. CGE&Y verified the guide and validated that order status can be monitored using either the LSR Status Inquiry or Status Updates functions under PreOrder/Order/PostOrder section of IMA, and the completion notice is validated through a process of an auto-push message. In the case of the EDI orders an 865 transaction is the actual completion notice from the EDI transaction file. The two completion notification methods for IMA-GUI and EDI provide the Pseudo-CLEC with the ability to monitor current order condition. An additional Data Request-262 was issued on five PONs to which the completion notification was not reported as expected

on the Loss and Completion Report, due date plus 1. Of the five PONs, four were issued via the IMA-GUI gateway and one was issued via EDI. The response received from Qwest validated CGE&Y discoveries of the Qwest system ordering processes for IMA-GUI and EDI. The response provided evidence of the methods that can be utilized by the Pseudo-CLEC to monitor order status. These methods were validated by the Pseudo-CLEC and the CGE&Y Retest Team. The Loss and Completion Report constitutes a batch process used primarily to report on service requests that have been completed. Order completions for IMA/GUI and EDI are collected and transmitted to the Pseudo-CLEC using a batch file creating the report. If an order completes after the batch file has been transmitted for the day the completed order will then be included in the following days Loss and Completion Report. CGE&Y determined that this IWO should be closed based on the results logged during the test effort.

CGE&Y encountered numerous incidents of Qwest using the FOC to communicate a due date jeopardy, or a reject message after receipt of an initial FOC. Qwest is working through the CMP process to elicit CLEC input to improve the efficiency of the FOC process. (AZIWO1107, AZIWO1114, AZIWO2115, AZIWO2116, AZIWO2069) Further retest and re-evaluation closed these IWOs based on 1) Qwest retraining of its personnel, 2) Qwest procedural changes relating to issuance of FOCs after SOC's, and 3) additional system edits to prevent premature FOC issuance. CGE&Y conducted an extensive retest and did not encounter re-occurrences of these issues.

Further retest and re-evaluation supported these findings.

Maintenance & Repair

CGE&Y reported statistical findings for the Pseudo-CLEC and aggregate commercial CLEC results for the following M&R measures:

- Out of Service Troubles Cleared Within 24 Hours (MR-3)
- All Troubles Within 48 Hours (MR-4)
- All Trouble Cleared Within 4 Hours (MR-5)
- Repair Repeat Report Rate (MR-7)
- Trouble Rate (MR-8)
- Repair Appointments Met (MR-9)

Based on Pseudo-CLEC results, and commercial CLEC results where insufficient Pseudo-CLEC data were available, CGE&Y found that Qwest provided disparate service or failed to meet the benchmark standard for the Pseudo-CLEC for non-dispatched UNE-P out-of-service troubles cleared within 24 hours, non-dispatched UNE-P mean time to restore, and dispatched and non-dispatched UNE-P repair appointments met. CGE&Y issued three IWOs (AZIWO1190, AZIWO1191, and AZIWO2125) in response to these performance failures and validated that Qwest had instituted fixes to address the issues and/or performance had improved for the retest period. For all other disaggregations where sufficient data were available, CGE&Y found that Qwest was providing parity service or met the appropriate benchmark.

CGE&Y encountered very few negative results during M&R testing. Some CEMR tickets were either not present or were corrupted. EB-TA results were positive; the only negative result relates to Qwest clearance of a ticket.

Billing

CGE&Y encountered numerous billing discrepancies during the billing validation. Qwest has responded that these discrepancies were primarily the result of human error and that training has been provided to the individuals and teams to prevent future occurrences. In addition, Qwest implemented a system enhancement and a Multi Channel Communication (MCC) to address these issues. On this basis these IWOs were closed. (AZIWO1152, AZIWO1154, AZIWO1163, AZIWO1166, AZIWO1183)

CGE&Y also conducted a Supplemental DUF Evaluation in January and February 2002. As a result of this evaluation, four IWOs were issued (AZIWO1215, AZIWO2127, AZIWO2128 and AZIWO2129). CGE&Y received Qwest's responses to the IWOs indicating that system fixes had been implemented on February 7, 18 and March 28; and a process change had been implemented on March 22, 2002. CGE&Y subsequently retested and closed AZIWO2127, AZIWO2128, AZIWO1215 and AZIWO2129.

CGE&Y reported statistical findings for the Pseudo-CLEC and aggregate commercial CLEC results the following billing measures:

- Time To Provide Recorded Usage Records (BI-1)
- Invoices Delivered Within 10 Days (BI-2)
- Billing Accuracy (BI-3) *
- Billing Completeness (BI-4)

* It should be noted that although the Billing Accuracy (BI-3) PID reflects parity, this PID only represents adjustments given to customers as a result of a service fault. The billing results reflected in Section 2.4.4 contains all billing problems identified by CGE&Y.

Based on Pseudo-CLEC results, and commercial CLEC results where insufficient Pseudo-CLEC data were available, CGE&Y found that Qwest provided disparate service for the Pseudo-CLEC for invoices delivered within 10 days. CGE&Y issued AZIWO1211 for this performance failure and validated that Qwest has instituted a fix to address the issue. For all other disaggregations where sufficient data were available, CGE&Y found that Qwest was providing parity service or met the appropriate benchmark.

Performance Measurement

CGE&Y has found the following:

- Qwest's entire performance measurement reporting process has undergone an extensive and thorough audit of both the input data and Qwest's methods and procedures for gathering, calculating, reporting and applying PID business rules exclusions. The result of this audit was the conclusion that Qwest's performance measurement reporting is accurate and can be relied upon to determine the quality of service Qwest provides to its CLEC customers.

General Functionality Findings

CGE&Y also made observations that CLEC access to the Qwest's OSS and processes was satisfactory in the following areas:

- User documentation in general was accessible through the Qwest website and training classes.
- Navigation through the CEMR application was user friendly.
- Gateway down-time was minimal during the test.
- Bill rating and charging for test accounts was processed without error.
- The IMA pre-order menu was easy to navigate.
- The format of pre-order reports was clear and understandable.
- The test and turn-up activities were completed successfully due to the knowledge and helpfulness of the Loop Operation Center (LOC).

7.2 Retail Parity Evaluation

Conclusion

CGE&Y concludes that the experience of a CLEC service representative using the various available OSS interfaces is substantially the same to that of a Qwest service representative performing similar activities (pre-order, order, M&R) using internal OSS interfaces. CGE&Y also concludes that Qwest provides CLECs with substantially the same access to its OSS for the purposes of initiating service requests and M&R trouble transactions. These conclusions were based on a combination of qualitative, quantitative, and timeliness results, as well as observations and statistical analysis to determine the overall experience of a CLEC service representative as compared to a Qwest service representative performing similar activities. CGE&Y further concludes that the OSS access that Qwest provides CLECs for the purposes of initiating service requests and M&R trouble transactions does not negatively impact the customer experience.

Findings

CGE&Y created 24 IWOs during the Retail Parity Evaluation. Of the 24 IWOs, 11 were subsequently Withdrawn or were deemed Not Applicable. All IWOs were issued, responded to, verified, and subsequently closed.

IMA-GUI Pre-Order/Order

CGE&Y found that the quality and quantity of information obtained by a CLEC through pre-order queries were substantially the same as that obtained by Qwest through similar transactions. CGE&Y also found that the overall CLEC experience in submitting an order was substantially the same as that obtained by Qwest through similar transactions.

CGE&Y found disparity in the numbers of fields and steps required for a CLEC using IMA-GUI to complete an order (including pre-order steps) versus Qwest; the numbers of fields and steps were greater, across most scenarios, for CLECs. (AZIWO1111) This IWO was closed based on an RPE re-evaluation that determined only 15% of the fields required for POTS were manual entry for CLECs.

CGE&Y found a statistically significant disparity in the response times for pre-order queries for a CLEC using the IMA-GUI interface versus those of Qwest using equivalent internal interfaces. However, it is CGE&Y's opinion that this disparity is at least in part due to systems architectural considerations that are quite common in the area of business-to-business and third party trading partner software industry. (AZIWO1110) The Retail Parity Re-evaluation excluded the Pseudo-CLEC HTTP timing delays and showed that the resale and retail experiences were substantially similar. Therefore this IWO was closed.

IMA-GUI Maintenance and Repair

M&R scenarios were performed primarily to determine that the response to these transactions provided comparable information to both resale and retail.

CGE&Y found that the IMA-GUI M&R functionality provided to both retail and resale was substantially the same. For example, the functions necessary for retail to open a trouble ticket were the same for resale. Comparable MLT results were received for both retail and resale. Upon request, trouble history was available to both retail and resale along with trouble ticket status. The timeliness data gathered supports parity for the queries of issuing a ticket and obtaining its status.

The number of steps and fields over all the transactions and services tested is similar or fewer for resale than retail. The exception to this was issuing a ticket on non-designed services, where 11-12 fields were required for resale versus 3 for retail.

IMA-GUI has since been replaced by CEMR, which was included in the Functionality Test.

EDI Pre-Order/Order

CGE&Y found that the quality and quantity of information (similar appointment time, requested TNs, etc) obtained through EDI pre-order queries were substantially the same

for the Pseudo-CLEC as that obtained by Qwest through similar queries, and that the overall experience in submitting an order was also substantially the same for both.

EB- TA Maintenance and Repair

CGE&Y found that the functionality provided to both retail and resale was substantially the same. For example, the functions necessary for resale to open a trouble ticket were the same for retail. Comparable MLT results were received for both retail and resale. Trouble history was available to both resale and retail along with trouble ticket status.

The evaluation found that the quality and quantity of information obtained through EB-TA M&R transactions were substantially the same as that obtained by Qwest through similar transactions, and that the overall experience in submitting M&R transactions was also substantially the same for both.

7.3 Capacity Test

Conclusion

CGE&Y concludes that Qwest's OSS adequately processed the volumes by continuing to provide a level of performance well within the benchmarks established during all phases of the System Capacity Test. CGE&Y also concludes that for System Scalability, Qwest had well documented processes and procedures in place to maintain system capacity sufficient to meet projected future loads. Finally, CGE&Y concludes that for Staff Scalability, Qwest maintains adequate forecasting procedures to identify the need for additional work force within a sufficient time frame that allows for appropriate training and placement.

Findings

CGE&Y created seven IWOs during the Capacity Test. Of the seven IWOs, four were subsequently Withdrawn or were deemed Not Applicable. All IWOs were submitted, responded to, and subsequently closed.

Capacity and Stress Test

CGE&Y found that:

- The 12-month forecasted volume for pre-order queries transmitted to Qwest's OSS was processed satisfactorily. At no time during the test did the added test volumes, in addition to the normal production activity, cause Qwest's OSS to abnormally terminate or disrupt operations.
- The pre-order performance results (PO-1A (GUI) and PO-1B (EDI)), as reported by IRTM for the 12-month Capacity Test, were within the benchmarks specified in PID

6.3 for each query type. The pre-order response times calculated from the test data provided by the Pseudo-CLEC were also within the PID benchmarks.

- The FOC performance results (PO-5A (GUI) and PO-5B (EDI)) obtained from the 12-month Capacity Test were within the benchmarks required by PID 6.3, which is 95% of all FOCs received within 20 minutes for both GUI and EDI for all LSR product activity types. The only LSR that received a FOC time greater than the benchmark was an order intended to error out, but was inadvertently handled manually by a Qwest employee. This order was excluded from the results since it was not handled in a mechanized environment as provided in Section 5.2.2.2 (b) of the TSD 2.10.
- PO-1A results, as reported by IRTM for the stress test, are within the benchmarks required by PID 6.3 for all query types. The pre-order response times that were calculated from the test data provided by the Pseudo-CLEC were also within the PID benchmarks.
- PO-1B results obtained during the stress test did not meet the benchmarks required by PID 6.3. During the third hour of the test, responses were delayed due to high transaction volumes. If EDI transaction intervals obtained during the third hour of the test are excluded from the results, as in CGE&Y's opinion should be the case only to compare the results to the IRTM results (see discussion of AZIWO2119 in Section 4.1.3.1), the resultant average response times would then be within the PID benchmarks and comparable to results achieved by IRTM. IWO AZIWO2119 was submitted, responded to, and subsequently closed.
- PO-5A and PO-5B results obtained during the stress test are within the benchmarks required by PID 6.3 for all LSR product activity types. The three LSRs that received a FOC time greater than the established benchmark were manually handled and excluded from the results as provided in Section 5.2.2.2 (b) of the TSD 2.10.
- The level of performance for receiving pre-order responses from Qwest's OSS begins to deteriorate with loads in excess of 200% of the 12-month forecast.
- Data from the 12-month Capacity Test validated that IRTM is an adequate tool for gauging pre-order response time intervals that Qwest's OSS are providing to the CLECs. Once the third hour EDI results are excluded from the stress Test, since IRTM does not contain third hour results, stress Test results also support this conclusion.
- The actual response times experienced by the Pseudo-CLEC compared to the results reported by Qwest during the Capacity Test using IRTM data does not refute the assertion that results generated from Qwest's simulated system are a true representation of pre-order transaction response times experienced by CLEC service representatives.

System Scalability

CGE&Y's analysis of Qwest's processes, procedures and planning tools to support system scalability found that:

- Procedures to adequately track OSS loads and capacities are in place and actively being utilized.
- Procedures for forecasting future OSS loads are adequately maintained and followed by Qwest's systems staff.
- Processes are in place and actively followed for managing and providing the necessary CPU, memory and data storage requirements for OSS computer growth.
- Qwest has adequate procedures in place to guide its staff in executing OSS interface data security processes.
- Qwest has adequate system disaster recovery plans, but does not perform live tests of these plans.

Staff Scalability

CGE&Y's analysis of Qwest's ability to increase personnel in order to process CLEC orders found that:

- Sufficient CLEC support centers workforce development modeling procedure documentation is available.
- Volume contingency plans to meet dramatic increases in CLEC order volumes are documented and available to Qwest staff.
- Disaster recovery plans are well defined to ensure continued operations are in place and maintained.
- Recruiting and training programs to provide for the availability of competent staff with the necessary skills to adequately process CLEC orders are sufficiently documented.

7.4 Relationship Management Evaluation

Conclusions

CGE&Y concludes that Qwest's CLEC Account Establishment processes are sufficient. During the course of the evaluation, Qwest has continued its effort to improve its

processes and the quality of information available to the CLEC community related to account establishment.

CGE&Y concludes that Qwest's Account Management processes were sufficient, although these processes appear to require reinforcement and/or improvement due to the many negative comments received from CLECs on this subject. CGE&Y was able to track improvements to many of these processes during the course of this evaluation.

CGE&Y concludes that Qwest's Interface Development process is sufficient. Feedback from CLECs was positive regarding the knowledge of the staff and the project management processes Qwest uses to manage individual CLEC development efforts.

CGE&Y concludes that the online documentation available to CLECs is sufficient and has been vastly improved over the course of the Arizona 271 Test. CGE&Y finds that sufficient content exists, in a well organized manner, for a CLEC to find all information required to conduct business activities with Qwest. This information is being continuously refined, and in the future much of it will fall under the aegis of Qwest's Change Management Process (CMP).

A complete redesign of the CICMP process to a new Qwest CMP is in progress. The new CMP is a collaborative process that is addressing many of the previously identified deficiencies.

Due in part to the extensive nature and duration of the Arizona OSS test, many improvements have already been implemented by Qwest. Dozens of system problems and processing errors have been corrected, and various improvements have also been implemented. Qwest's overall documentation has improved dramatically, and their wholesale website (where CLECs get information) has been completely reengineered. The training program has been redesigned. A complete redesign of Qwest's CMP was initiated. Furthermore, as a result of the PMA, many PID improvements have been implemented.

Findings

CGE&Y created 32 IWOs during Relationship Management Evaluation. Of the 32 IWOs, 3 were subsequently Withdrawn or were deemed Not Applicable. All IWOs were submitted, responded to, and subsequently closed.

CLEC Account Establishment

CGE&Y found the following during the evaluation:

- The Qwest PCAT contained erroneous, inconsistent, and confusing information regarding CLEC account establishment.

- The Qwest PCAT contained erroneous, inconsistent, and confusing information regarding products available for resale and as UNE.
- Many areas of the Qwest wholesale website contained out-of-date information.
- Qwest did not have a coherent process for controlling the over-all content of its wholesale website.

Multiple IWOs were submitted, responded to, and subsequently closed (e.g. AZIWO1086, AZIWO1131, AZIWO1135, AZIWO1196). CGE&Y has found that all of the deficiencies identified above have been remedied by Qwest.

CLEC Account Management

CGE&Y found the following during the evaluation:

- Qwest's contract amendment process appeared to be inconsistently followed, based upon the experiences of the Pseudo-CLEC in the Arizona 271 proceeding and the feedback received from CLECs during the Relationship Management Evaluation.
- The trouble ticket handling procedures used by Qwest's various CLEC-facing help desks appear to be inconsistently followed, based upon the feedback received from CLECs and experienced by the Pseudo-CLEC during the Relationship Management Evaluation.
- Responses to CLEC account inquiries, particularly ones dealing with billing-related issues, were not consistently provided in a prompt manner.

Multiple IWOs were submitted, responded to, and subsequently closed (e.g. AZIWO1001, AZIWO1065, AZIWO1145). CGE&Y has found that Qwest has improved all of the deficiencies identified above.

CLEC Training

CGE&Y found the following during the evaluation:

- Qwest offered an extensive catalog of product, systems, and process-related courses to CLECs.
- Qwest's CLEC training was effective and beneficial to participants.
- Qwest's CLEC training was available at multiple locations and Qwest has responded to the demand for CLEC training by increasing the frequency of course offerings.

During the course of initial evaluation, CGE&Y identified several deficiencies in Qwest's CLEC training; however, by the end of the evaluation all these deficiencies

were remedied. Multiple IWOs were submitted, responded to, and subsequently closed (e.g. AZIWO1066, AZIWO1067, AZIWO1172, AZIWO1173).

Interface Development

CGE&Y found the following during the evaluation:

- Feedback from CLECs was positive regarding the knowledgeability of the staff and the project management processes Qwest uses to manage individual CLEC development efforts
- Qwest lacked an EDI testing environment that mirrored its production environment during the initial evaluation. AZIWO1044 was submitted, responded to, and subsequently closed. This IWO was remedied by what Qwest calls its “Stand-Alone Test Environment.” CGE&Y did not make an evaluation of this environment.

Co-Provider Industry Change Management Process

CGE&Y found the following during the evaluation

- Qwest’s CICMP was not a truly collaborative process for effecting changes to the various interfaces mentioned above. In examining the upgrades to Qwest’s IMA system during the course of the evaluation, CGE&Y found that CLEC-requested changes made up a relatively small percentage of the total changes added to the system compared with those initiated by Qwest.
- Qwest’s CICMP process did not provide CLECs with an opportunity to present CRs and have them evaluated, approved, and prioritized in a reasonable length of time. In examining IMA Release 6.0, which took place in December 2000, CGE&Y found that the few CLEC-originated changes included in the release had taken an average of 12.5 months to complete the process.
- While Release Notifications were found to be very prompt in most respects, Qwest’s “final” EDI design documentation was only released to the CLECs an average of 21 days before an upcoming release. Because CLECs must program their own systems to match the changes made by Qwest, it was CGE&Y’s opinion that a 21 day time period is too short.

Multiple IWOs were submitted, responded to, and subsequently closed (e.g. AZIWO1078, AZIWO1075, AZIWO1076). CGE&Y has found that the new CMP is addressing all of the above deficiencies that CGE&Y originally identified in its evaluation of Qwest’s CICMP process.

Appendix A – Acronym List

Acronym	Definition of Acronym
ACC	Arizona Corporation Commission
ACNA	Access Customer Name Abbreviation
Act	Telecommunications Act of 1996
ADSL	Asynchronous Digital Subscriber Line
AIN	Advanced Intelligent Network
AMSC	Account Maintenance Service Center
API	Application Programming Interface
ASOG	Access Service Ordering Guidelines
ASR	Access Service Request
ATIS	Alliance for Telecommunications Industry Solutions
ATM	Asynchronous Transfer Mode
AZ	Arizona
BAN	Billing Account Number
BFR	Bona Fide Request
BOC	Bell Operating Company
BOSS	Business Operations Support System
BPL	Business Process Layer
BRI	Basic Rate Interface
BRS	Basic Rate Service
BVMS	Business Voice Messaging Service
CARS	Customer Account Retrieval System
CEMR	Customer Electronic Maintenance and Repair
CEV	Controlled Environmental Vault
CFA	Connecting Facilities Assignment
CGE&Y	Cap Gemini Ernst & Young
CHC	Coordinated Hot Cut
CICMP	Co-Provider Industry Change Management Process
CLEC	Competitive Local Exchange Carrier
CLLI	Common Language Location Identifier
CMDS	Centralized Message Distribution System
CMP	Change Management Process
CO	Central Office
CPMC	Collocation Project Management Center
CPU	Central Processing Unit
CR	Change Request
CRIS	Customer Records Information System
CSC	Customer Service Center
CSR	Customer Service Record
CTAS	Customer Terminal Access System
DA	Directory Assistance

Acronym	Definition of Acronym
DCI	Doherty and Company, Inc.
DL	Directory Listing
DLEC	Data Local Exchange Carrier
DOJ	Department of Justice
DR	Data Request
DSL	Digital Subscriber Line
D-UDIT	Dangling UDIT
DUF	Daily Usage File
EB- TA	Electronic Bonding – Trouble Administration
EDI	Electronic Data Interchange
EEL	Enhanced Extended Loop
ETTR	Electronic Trouble Ticket Request
E-UDF	Extended UDF
E-UDIT	Extended UDIT
FCC	Federal Communications Commission
FDDI	Fiber Distributed Data Interface
FDI	Feeder Distribution Interface
FDP	Fiber Distribution Panel
FID	Field Identifier
FOC	Firm Order Confirmation
FTM	Functionality Test Measurement
FTP	File Transfer Protocol
FTRC	Functionality Test Results Comparison
GUI	Graphical User Interface
HEET	Held, Escalated, and Expedited Tool
HP	Hewlett Packard
HPC	High Performance Communications
IA	Interactive Agent
IABS	Integrated Access Billing System
IBC	Intra-Building Cable
ICA	Interconnection Agreement
ICDF	Interconnect Distribution Frame
ICNO	Installation Completion Notification
ICR	Incidental Contact Report
ILEC	Incumbent Local Exchange Carrier
IMA	Interconnect Mediated Access
IOF	Inter-Office Facilities
IRTM	IMA Response Time Measurement
ISC	Interconnection Service Center
ISDN	Integrated Service Digital Network
ISP	Internet Service Provider
IT	Information Technologies
IWO	Incident Work Order
IXC	Interexchange Carrier

Acronym	Definition of Acronym
JIA	Joint Implementation Agreement
LAN	Local Area Network
LATA	Local Access Transport Area
LFACS	Loop (or Line) Facility Assignment Control System
LIDB	Line Information Data Bases
LIS	Local Interconnection Service
LMOS	Loop Maintenance Operations System
LNP	Local Number Portability
LOA	Letter of Authorization
LOC	Loop Operation Center
LPIC	Local Primary Interexchange Carrier
LS	Loop Service
LSOG	Local Service Ordering Guidelines
LSR	Local Service Request
M&R	Maintenance and Repair
MCC	Multi Channel Communication
MEDIACC	Mediated Access
MFJ	Modified Final Judgement
MLT	Mechanized Loop Test
MSA	Metropolitan Statistical Area
MST	Mountain Standard Time
MTE	Multi-Tenant Environment
MTP	Master Test Plan
M-UDIT	Meet-Point UDIT
NC/NCI	Network Channel / Network Channel Interface
NDR	Network Design Requests
NID	Network Interface Device
OA	Operator Assistance
OBF	Ordering and Billing Forum
ONA	Open Network Architecture
ORT	Operational Readiness Test
OSS	Operations Support Systems
PAC	Performance Acceptance Certificate
PC	Personal Computer
PCAT	Product Catalog
PIC	Primary Interexchange Carrier
PICC	Pre-subscribed Interexchange Carrier Charge
PID	Performance Indicator Definitions
PMA	Performance Measurement Audit
PON	Purchase Order Number
POR	Plan of Record
POTS	Plain Old Telephone Service
PREMIS	PREMises Information System
PRF	Provisioning Request Form

Acronym	Definition of Acronym
RBOC	Regional Bell Operating Company
RLD	Raw Loop Data
RN	Release Notification
ROC	Regional Oversight Committee
RPE	Retail Parity Evaluation
RPL	Resale Private Line
RSID	Reseller Identification
RT	Remote Terminal
SAC	Service Additions and Changes
SAI	Serving Area Interface
SATE	Stand Alone Test Environment
SBC	Southwestern Bell Telephone Company
SCTDP	System Capacity Test Detailed Plan
SGAT	Statement of Generally Available Terms
SICM	State Interconnection Manager
SIG	Service Interval Guide
SLA	Service Level Agreement
SME	Subject Matter Expert
SNET	Southern New England Telephone
SOC	Service Order Completion
SOP	Service Order Processor
SPOC	Single Point of Contact
SR	Special Request
SRP	Special Request Process
TA	Test Administrator
TAG	Test Advisory Group
TELIS	Telecommunications Information System
TIRKS	Trunks Integrated Records Keeping System
TN	Telephone Number
TSD	Test Standards Document
TTR	Trouble Ticket Request
UCCRE	Unbundled Customer Controlled Rearrangement Elements
UDF	Unbundled Dark Fiber
UDIT	Unbundled Dedicated Interoffice Transport
UDL	Unbundled Distribution Loop
UFL	Unbundled Feeder Loop
UNE	Unbundled Network Elements
UNE-L	Unbundled Network Elements – Loop
UNE-P	Unbundled Network Elements – Platform
USOC	Universal Service Order Code
VMS	Voice Messaging Service

Appendix B – Incident Work Order Summary

FUNCTIONALITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
1.	AZIWO1001 C L O S E D	A scenario was executed that would test whether or not the facilities belonged to HPC. We could not attach the CFA's using our ACNA. Our Account Manager was contacted and is investigating the problem.	A cross reference table had not been built. Upon learning of this problem, the table was built. Additionally, there were some conflicts between what was built in TIRKS and communicated on the APOT forms. The conflicts were resolved and new APOT sheets were provided to HPC. These problems were a result of the out of process steps that were necessary in order to re-define existing CLEC collocation cages and associated facilities as the P-CLEC's. Qwest recommends that IWOs be limited to issues associated with Qwest's actual processes that are within the scope of the test.	N/A
2.	AZIWO1002 C L O S E D	Change request #18813 was opened by Qwest to correct a problem with the "CSR with Error response" transaction.	Qwest has determined that this is not a valid error condition. An EDI user will have 5 rather than 1 error returned due to the design of EDI.	OSS Change
3.	AZIWO1003 C L O S E D	<u>EDI Certification</u> Change Request # 17373 was opened by Qwest to correct a syntactically invalid N1 segment returned for the CC field even though a CC had not been sent in on the request. This CR was assigned a severity level of 2. This occurs on the "Obtain an appointment availability for POTS" transaction and the "Reserve an appointment for POTS" transaction.	This problem was corrected on 7/24/2000.	OSS Change
4.	AZIWO1004 C L O S E D	<u>EDI Certification</u> Change Request # 17374 was opened by Qwest to correct a syntactically invalid N1 segment for the CC field even though a CC had not been sent in on the request. This error affects the scenarios in the POTS Resale testing. This CR	This problem was corrected on 7/24/2000.	OSS Change

FUNCTIONALITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
		was assigned a severity level of 2.		
5.	AZIWO1005 C L O S E D	<u>EDI Certification</u> Change Request # 17672 was opened by Qwest to correct a problem with the ACK that was returned. The data in ACK28 and ACK29 is reversed from what the specifications indicate. The G should be in ACK29 and TELEPHONE should be in ACK28. The CR was opened as a severity 2.	The problem was corrected in production on 8/18/2000.	OSS Change
6.	AZIWO1006 C L O S E D	<u>EDI Certification</u> Change Request # 17937 was opened to correct a problem with the "CSR Multiple Match response" transaction. According to the SOAR EDI documentation 5.0, the AN returned on a Multiple Match (RESPONSE = M) is 12 bytes in length, including dashes, which implies that the CUST CODE is not part of the AN. This CR was assigned a severity level of 2.	This problem was corrected in production on 8/18/2000.	OSS Change
7.	AZIWO1007 C L O S E D	Change request #17953 was opened by Qwest to correct a problem with the "CSR Multiple Match Response" transaction.	CR # 17953 submitted requesting that these fields be returned for "Multiple CSR Match" transactions. This Change Request was part of the IMA 7.0 release on April 2001	OSS Change
8.	AZIWO1008 C L O S E D	<u>EDI Certification</u> Change Request # 18793 was opened by Qwest to correct the "Query to obtain list of CFAs response" transaction. . In the CFAR transaction, the SLN loop doesn't repeat GROUPNM times. Should have received 43 SLN repetitions in the scenario we used for testing.	Resolution: The scenario outlined in IWO 1008 is an IMA software error. The error is known and documented in CR #18793, with an assigned Qwest severity level of 2. A production patch will be released Monday night, September 25, 2000.	OSS Change
9.	AZIWO1009 C L O S E	<u>EDI Certification</u> Change Request # 18959 was opened by Qwest to correct a problem with the "LSR query response" transaction. The 855 HPC received had two syntax	The scenario outlined in IWO 1009 is an IMA software error. The error is known and documented in CR# 18959, with an assigned Qwest severity level of 2. A fix is scheduled for IMA release 6.0, to be deployed	OSS Change

FUNCTIONALITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
	D	errors on the REF segments. The REF's in the header contained the REF01 but they did not have the REF02. This CR has been opened with a severity level of 2.	on December 8, 2000.	
10.	AZIWO1010 C L O S E D	Change request #17372 was opened by Qwest to correct the problem of generating a PO1 when there are no subordinate segments.	IMA software error. The error was assigned Qwest severity level of 3. A fix for IMA release 6.0 was deployed on December 8, 2000.	OSS Change
11.	AZIWO1011 C L O S E D	<u>EDI Certification</u> Change Request # 17513 was opened by Qwest to correct the "Facility availability query response" transaction contained a "PENDING" PO1 loop that should not be there. This CR was assigned a severity level of 3.	Resolution: The scenario outlined in IWO 1011 is an IMA software error. The error is known and documented in CR #17998, with an assigned Qwest severity level of 3. A fix is scheduled for IMA release 6.0, to be deployed on December 8, 2000.	OSS Change
12.	AZIWO1012 C L O S E D	Change request #17943 was opened by Qwest to correct a problem with the "CSR Multiple Match response" transaction.	Qwest implemented a change to provide the AN (CSRR7) at the header level. It does appear at the detail level.	OSS Change
13.	AZIWO1013 C L O S E D	<u>EDI Certification</u> Change Request # 17998 was opened by Qwest to correct an issue with the "Private Line conversion as is" transaction. We were asked to change our interface to populate both the ZIP CODE and CALA on this transaction even though the Business Rules do not require this. This CR was opened as a severity level 3. No projected implementation date.	The scenario outlined in IWO 1013 is an IMA software error. The error is known and documented in CR #18580, with an assigned Qwest severity level of 3. A fix is scheduled for IMA release 6.0, to be deployed on December 8, 2000.	OSS Change
14.	AZIWO1014 C L O S E D	<u>EDI Certification</u> Change Request # 18580 was opened by Qwest to correct a problem with the "Convert POTS to Unbundled Loop response" transaction. We compared the data returned to the expected results and observed that Qwest returned a QLR value of 0 (zero). The	The scenario outlined in IWO 1014 is an IMA software error. The error is known and documented in CR #17513, with an assigned Qwest severity level of 3. A fix is scheduled for IMA release 6.0, to be deployed on December 8, 2000.	OSS Change

FUNCTIONALITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
		business rules state that this field is echoed back from the query, but we did not send it on the query. This CR was opened as a severity level 3.		
15.	AZIWO1015 C L O S E D	CGEY executed a scenario that would test whether or not the facilities belonged to HPC. CGEY could not attach the CFA's using our ACNA.	Qwest does not consider this testing incident to be a test exception. It is a result of the constraints of the OSS test using a Pseudo-CLEC.	N/A
16.	AZIWO1016 C L O S E D	Change request #17427 was opened by Qwest to correct the "Service availability query response" transaction.	Qwest has modified their gateway to support greater than 1 occurrences of the SLN.	OSS Change
17.	AZIWO1017 C L O S E D	Change request #18204 was opened by Qwest to correct the "Service Availability query response" transaction.	The problem was discovered as a table not loaded correctly for the combination of 602/481 in production or interoperability. The problem was corrected on 8/22/2000.	System Tables
18.	AZIWO1020 C L O S E D	Both multi-line, non-design, complex service Maintenance & Repair scripts performed 9/21/00 successfully entered trouble tickets but the follow-up ticket status request reported an "Errored" STATUS.	Qwest suggested that MEDIACC had errored internally on the tickets, after preliminary acceptance, and hence had not issued the tickets further downstream into LMOS. CGE&Y is satisfied with the explanation provided by Qwest. This problem did not reoccur throughout RPE/Functionality testing of M&R.	OSS Change
19.	AZIWO1034 C L O S E D	Question regarding Release Notes for Release 6.0 dated November 17, 2000.	Qwest recognizes the need for a documentation update. Both the IMA Release Notes and the IMA User's Guide were reviewed for content.	Documentation Improvement

FUNCTIONALITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
20.	AZIWO1037 C L O S E D	An address was validated and current CSR retrieved. When the representative clicked on Recap, from the Resale Form Screen, the system responded with an error message.	Qwest was able to recreate the error and updated the IMA Users Guide documentation February 2000 IMA Release 6.01	Documentation Improvement
21.	AZIWO1039 C L O S E D	Of the 15 jeopardy notifications on completed orders which were found in Qwest's Adhoc JEOP tables, 9 had PONs starting with 'F' and were either not received or correctly identified as jeopardies by the Pseudo-CLEC.	<p>Two PONs did not need jeopardy notices and the due date was met. Five PONs did have jeopardy notices sent via fax. One PON had the jeopardy notice sent via an FOC. One PON did not have a jeopardy notice sent when one was required.</p> <p>Qwest implemented a standard procedure for Jeopardy handling in September 2001. CGE&Y accepts the Qwest response and has determined that Jeopardy notices are handled properly.</p>	Procedure
22.	AZIWO1042 C L O S E D	CSR to validate that account had converted to a Resale account prior to issuing a change order. After entering data to retrieve a CSR, the system returned two selections for the telephone number.	Qwest does not consider this to be a system problem. Qwest updated the IMA User documentation with release 6.01.	Documentation Improvement
23.	AZIWO1043 C L O S E D	The Service Interval Guide needs to be updated to include all FOC intervals for both flow-through and non-flow-through orders.	Qwest has updated the Standard Interval Guide to reflect current FOC intervals.	Documentation Improvement
24.	AZIWO1045 C L O S E D	Order to convert 1 Residence line, with no features and a straight line main listing was issued 12/27/00 with an order completion date of 1/3/01. The SOC was not received on the 1/4/01 Completion and Loss Report.	<p>Qwest agrees that this IWO outlines a system problem. Qwest is continuing its research and supplemental answers will be provided.</p> <p>The response received from Qwest validated CGE&Y discoveries of the Qwest system ordering processes for IMA-GUI and EDI. The response provided evidence of the methods that can be utilized by the P-CLEC to monitor order status. These methods were validated by the P-CLEC and the CGE&Y Retest Team.</p>	OSS Change

FUNCTIONALITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
25.	AZIWO1046 C L O S E D	According to the Resale Loss Report documentation, a local provider receives an entry on the loss report when the main line service is disconnected.	Qwest does not consider this IWO to outline a system problem	Documentation Improvement
26.	AZIWO1047 C L O S E D	The rep successfully validated the customer's service address during pre-order. Once the order entry process was completed, the rep submitted the order. The system responded with the error message "Address validation failed".	Qwest believes that this IWO is not due to a system problem, but due to the Pseudo-CLEC not applying the proper spelling of a street name.	N/A
27.	AZIWO1050 C L O S E D	Status update emails for non-designed trouble tickets indicating ticket closure were provided on July 20, 2001. However, in MTAS these tickets are indicated as having been on June 4, 5, 22, and 23, 2001. Four to six weeks is an inordinately long delay in providing notification that tickets have been closed. This problem affected 15.4% (4 out of 26) of the tickets which received status update emails.	<p>The cause of the out-of-sync tickets was traced to intermittent failures in the communications network linking the applications. Qwest diagnosed and repaired the network problems. Qwest also implemented an automated process to detect and correct any out-of-sync ticket within two hours of when it occurs. Currently, this process detects fewer than one out-of-sync condition per day.</p> <p>Seven trouble tickets were retested by CGE&Y. Notification of trouble ticket closure was transmitted to the Pseudo-CLEC via e-mail and facsimile. The TR Status Date and Time is in agreement with the Pseudo-CLEC's reported times. This IWO can be closed.</p>	OSS Change
28.	AZIWO1069 C L O S E D	When attempting to schedule an appointment, the error message "No Available or Selected Appointments found" was displayed. The representative was unable to go past the pre-order/ASQ stage of order entry.	Qwest believes that the issue identified is not a system error. Qwest recommends that the testers review the EDI Disclosure Document.	N/A

FUNCTIONALITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
29.	AZIWO1073 C L O S E D	The IMA 6.0 documentation is not the screen that Co-Providers have access to in IMA. HPC contacted the IMA Helpdesk to determine why there were missing links on this screen.	Qwest acknowledges that the IMA documentation contains login screen(s) that are different than that returned to CGE&Y; however, this is not an anomaly.	Training Opportunity
30.	AZIWO1074 C L O S E D	The System Administration screen for the Corporate User Profile has two new entries that were delivered as part of the IMA 6.0 Release, which have not been explained.	The User Documentation for IMA Release 7.0 released in April 2001 included a clarification for the two new entries.	Documentation Improvement
31.	AZIWO1082 W I T H D R A W N	Customer dissatisfied with the test.	AZIWO1082-1 and AZIWO1083-1 have been identified by Qwest as customer complaints and has addressed them. In addition, these issues have been recognized as out of scope relating to the IWO process. At this point in time, CGE&Y is withdrawing these IWOs.	N/A
32.	AZIWO1083 W I T H D R A W N	Inappropriate access to customer premises. Qwest entered customer premise without permission and trenched his yard without customer being notified.	AZIWO1082-1 and AZIWO1083-1 have been identified by Qwest as customer complaints and has addressed them. These issues have been recognized as out of scope relating to the IWO process. CGE&Y is withdrawing these IWO's.	N/A
33.	AZIWO1085 C L O S E D	Rejected Order Message: The telephone number to contact a Qwest representative regarding the rejected order is incorrect.	Qwest will update IMA to reflect the correct contact number. This was implemented with the IMA 7.01 release CGE&Y verified the Qwest representative contact number was accurately reflected on the rejected order message. The number shown is [Redacted]. Since the telephone number has been corrected, this IWO may be closed.	OSS Change

FUNCTIONALITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
34.	AZIWO1087 C L O S E D	The Resale Completions Report for HPC shows a completion date of "00/00/0000" rather than an actual date.	The additional PON, [Redacted], did not appear on the completion report because the orders have not completed yet. The orders are due on 6/11, as per instructions from the P-CLEC. The previous two versions of the PON were rejected and would not have appeared on the completion report either. This issue has been clarified by Qwest's response. This IWO is ready for closure.	Documentation Improvement
35.	AZIWO1088 W I T H D R A W N	The service address listed from the validation data does not match the actual customer address from the SOC.	The service address listed from the validation data did not match the actual customer address was because the CLEC attempted to validate the address by TN. The CLEC should validate an address by address, as stated in the IMA User's Guide.	N/A
36.	AZIWO1089 C L O S E D	The address could not be validated using EDI, the error message "Unable to locate specified address" is returned. The same address was input to IMA.	An incorrect SAGA value was used.	N/A
37.	AZIWO1092 W I T H D R A W N	CGEY requests a description of the escalation process available to CLECs when the Helpdesk and Account Manager response does not resolve the issue.	CGE&Y has decided to withdraw AZIWO1092, and will be issuing a data request in its place.	N/A
38.	AZIWO1093 C L O S E D	IWO 2071 defined a problem where UNE-P products were rejected by the gateway due to invalid USOCs.	Qwest has acknowledged that table updates were missed. Qwest has since addressed this one-time issue and has corrected the problem.	System Tables

FUNCTIONALITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
39.	AZIWO1094 C L O S E D	The CSR billing information is different from what the LSR displays. The billing address for each account should be as shown on the LSR. The CSR document shows the billing address as the customer's actual address.	Based on CLEC feedback, Qwest changed its process to place end-user name and address in the bill section of the account.	Procedure
40.	AZIWO1098 C L O S E D	SOC document received on 3/14/01 shows a successful disconnect for a multi-line residence resale account. When the CSR was pulled on 3/22/01 the account is listed as "live."	CGE&Y disconnected twenty-four accounts during the Retest efforts. No additional occurrence of this issue was discovered during the verification process of pulling CSR's against the disconnected accounts. The IMA Release Notes 7.01, June 5, 2001 was reviewed to validate for these updates, but no mention of the process clarification was noted in the document. CGE&Y suggests that Qwest updates the IMA 7.01 Release Notes and includes this process in the documentation.	Documentation Improvement
41.	AZIWO1107 C L O S E D	A review of test orders for the period 12-21-01 through 4-23-01 shows 13 test cases (PONs) where an unsolicited FOC was received with a due date change but no jeopardy message was received.	Qwest's review of the PONs indicated that the multiple FOCs were due to the FOC process not being followed appropriately and re-training is being conducted. During Retest 134 orders were executed to verify Qwest's response to this issue. No additional occurrence of this issue was discovered during testing.	Training Opportunity
42.	AZIWO1108 C L O S E D	A review of test orders indicates PO-3 (LSR Rejection Notice Interval) results for the Pseudo-CLEC exceed the standard performance of less than or equal to 4.5 hours for each interface (IMA-GUI and IMA-EDI) as stated in the PID.	The 4.5 benchmark has been superseded by recent events in the TAG.	Metrics

FUNCTIONALITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
43.	AZIWO1109 C L O S E D	CGE&Y's assessment of the PO-1 measure during the Performance Measurement audit concluded that only queries successfully processed in the normal course of doing business are used to calculate the PO-1 measurement, as opposed to what CLECs actually experience.	Actual CLEC preorder response times obtained from the Pseudo CLEC as part of the Capacity Test Results support that when actual results are calculated as per the PID, (excluding transactions exceeding the time out threshold), differences between IRTM and actual response times are immaterial in relation to the PO-1 benchmarks. The issues identified in this IWO have been resolved.	Metrics
44.	AZIWO1114 C L O S E D	On 5/3/2001 HPC received a FOC with a Due Date change in the comment field only. The field that contains the Due Date still indicated a Due Date of 4/20/2001 instead of 5/8/2001 mentioned in the comment field.	Qwest's corrective action for this IWO was that the Qwest employee has been re-trained on how to correctly fill out an FOC and advised of the importance of verifying completions when working the Order Past Due Report.	Training Opportunity
45.	AZIO1116 W I T H D R A W N	The long provisioning time frame for end users served by pair gain causes the loss of the user's account.	The UNE remand order does not call for pre-provisioning of a facility from the host central office the remote site. The process Qwest has in place gives a generic jeopardy message to the DLEC allowing time for Qwest to assess the work order processes required to provide facilities.	N/A
46.	AZIWO1117 W I T H D R A W N	If a FOC/Jeopardy is received on an LSR, a generic message is stated as the root cause of the problem. The next business day, an email is received defining the detail of the jeopardy.	The Qwest reply is sufficient for the resolution of this IWO. The engineering process to determine the root cause of the facility deficiency follows normal retail processes and procedures. Due to the fact that no corrections were required to rectify this IWO, it is CGE&Y's decision to withdraw this IWO.	N/A
47.	AZIWO1118 W I T H D R A W N	Same as AZIWO2117.	Same as AZIWO2117.	N/A

FUNCTIONALITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
48.	AZIWO1119 C L O S E D	Per instructions from Qwest provided to a participating DLEC, the end user must get a bill before the raw data tool is tabled with the end user's number allowing the DLEC to perform a loop qualification.	Qwest implemented a system change to address the data latency issue. CGE&Y has determined that this IWO can be closed based on the results logged during the retest effort of this IWO.	OSS Change
49.	AZIWO1120 W I T H D R A W N	Qwest's policy in their repair centers is inconsistent. If a policy exists, the instructions from the Qwest employees should be the same for meet arrangements.	The applicable process in this IWO is the joint meet process for Designed Services. Qwest was in accordance with this process.	N/A
50.	AZIWO1121 C L O S E D	When a trouble report is submitted by the DLEC to Qwest on a service recently installed, the Qwest repair records show no existence of DSL service.	CGE&Y performed a re-evaluation of the method utilized to report this incident by validating Appendix I of the TSD Sections 1.7.1 and 1.7.2. CGE&Y found no violation of Appendix I of the TSD Sections 1.7.1 and 1.7.2. CGE&Y was unable to engage in similar activities as described in the Incident Summary. CGE&Y has determined that this IWO can be closed based on the results logged during the retest effort of this IWO.	System Tables
51.	AZIWO1122 W I T H D R A W N	The trouble isolation time frame was extended several days due to an error made by Qwest on the original analysis.	The Qwest response defines the root cause of this IWO as an isolated incident. In addition, cooperative test could have resolved the situation.	N/A
52.	AZIWO1123 C L O S E D	Testing of a DSL loop sometimes requires a Qwest tech at the central office and at the end user's NID.	Qwest provided general information about the Installation Options to the Account Team Manager relating to Cooperative Testing.	Training Opportunity

FUNCTIONALITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
53.	AZIWO1124 C L O S E D	The raw data loop qualification tool does not contain sufficient directory number information.	<p>Qwest implemented the release of IMA 8.0 on the weekend of 8/18/01.</p> <p>Qwest also updated the IMA User Guide (Chapter 4, page 34).</p> <p>CGE&Y has determined that this IWO can be closed based on the results logged during the retest effort of this IWO.</p>	OSS Change
54.	AZIWO1126 C L O S E D	A participating DLEC currently has a contractual agreement with Qwest to change the PO-5 FOC return time to 72 hours.	Qwest has determined that there appears to be a misunderstanding caused by Qwest's response to an incorrect premise in the data request in question.	Metrics
55.	AZIWO1129 C L O S E D	In reviewing raw data gathered to evaluate results from the functionality test, CGE&Y has discovered that Qwest's MSA and Density Translation tables are out of date.	Upon verification of the latest MSA table provided, it has been determined that Qwest is now updating the table with new NPA/NXX openings.	System Tables
56.	AZIWO1130 C L O S E D	HPC followed Qwest's process for executing an amendment, and took approximately 7 months to get to a signed agreement between HPC and Qwest.	The delays in the LNP Managed Cut Amendment were the result of breakdowns in communications coupled with business process problems and inadequate monitoring of the paper flow process within Qwest	Procedure
57.	AZIWO1132 C L O S E D	Qwest required approximately 2 months, and 4 revisions to its UNE-P Amendment for Pseudo-CLEC before HPC could sign the amendment.	HPC contacted their account manager to request an amendment to their interconnection agreement to offer line splitting in the state of Arizona. Three copies of the amendment were received by HPC on July 16, 2001. These copies were signed and returned to Qwest on July 17, 2001. The approved amendment was received August 7 th verifying that the issue identified in the IWO has been resolved.	Procedure

FUNCTIONALITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
58.	AZIWO1133 W I T H D R A W N	The subject of this IWO is Qwest's inappropriate response to this service request and Qwest's failure in providing additional information for the reason for the cancellation.	When a DLEC submits an LSR with the appropriate entries identified on the attachment, and places a Y in AUTH indicating LOA authorization, the LSR should be worked as submitted. Since Qwest was unable to review the specific LSR in question, it cannot be determined if the LSR was submitted properly.	N/A
59.	AZIWO1134 C L O S E D	A signed copy of Amendment No.3 to the HPC Interconnection Agreement was received on March 14, 2001. Qwest signed the document on February 1, 2001 after the CLEC signed the document on January 30, 2001.	The delays were the result of breakdowns in communications coupled with business process problems and inadequate monitoring of the paper flow process within Qwest.	Procedure
60.	AZIWO1136 C L O S E D	<u>EDI Certification – CR19351</u> A severity 2 CR was opened on the following issue: In the CFAR HPC received an EDI syntax error in the N1 (BT). If N103 is present then N104 is required. The ACNA is missing. When we submitted the CFAQ an ACNA of ZHP was sent.	Qwest implemented CR19351 on 1/17/2001	OSS Change
61.	AZIWO1137 C L O S E D	In the RPL section (pages 96-97) the LIT (8) and PRILOC (10) are listed as not used for a disconnect.	This was part of the EDI Re-Certification under release 6.0.	Documentation Improvement
62.	AZIWO1139 C L O S E D	<u>EDI Certification – CR21066</u> A severity 2 CR was opened on the following issue: There are two PO1 loops that are returned on the DLRR. The CR will correct to have only one PO1 loop depending if the response is G or B.	IMA CR 21066 was implemented on 01/09/01.	OSS Change

FUNCTIONALITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
63.	AZIWO1140 C L O S E D	CGE&Y observed a possible deficiency in version 6.3 of the Arizona PID.	<p>The PIDs have been developed and implemented as defined in the PIDs. Qwest understands the purpose of the audit is to verify that the PIDs have been implemented as mutually agreed upon by the participants of the AZ TAG and as such finds this TI out of scope.</p> <p>CGE&Y has determined that results of the retest have minimized the concern that only orders that do in fact receive a FOC or SOC will be included in the performance measurement calculations for PO-5, PO-6 and PO-7. In addition, any order that does not receive a FOC, jeopardy or reject will reflect negatively on Qwest's performance through the application of the PO-10 measure. This IWO is considered closed since Qwest is in compliance with the PID v6.3.</p>	Metrics
64.	AZIWO1141 W I T H D R A W N	In validating the usage on the Daily Usage Files, duplicate records were identified.	Withdrawn – resolution outside Qwest domain.	N/A
65.	AZIWO1142 C L O S E D	PCLEC attempted to cancel PON with Ver 02 but received error message that 01 had been completed. RSOR data shows Qwest order was completed on 3/1/01.	As a part of the retest, twenty-nine “convert as specified” orders were tested during the period of 9/26/01 through 10/15/01 to fulfill the IWO 1142. Both media's (11 IMA & 18EDI orders) were used to validate the test results. The analysis indicates that none of the orders received Jeopardy notices after the SOC was received and posted in the Loss and Completion Report.	OSS Change
66.	AZIWO1150 C L O S E D	Several SOC's on the Loss and Completion Reports contain miscellaneous information where the PON should appear. Eight examples of this incident, dating as far back as June 2001 are provided for reference.	The examples provided do contain service orders where incorrect PON information was entered by Qwest SDC personnel. The individuals involved have been coached, and an MCC was distributed.	Training Opportunity

FUNCTIONALITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
67.	AZIWO1151 C L O S E D	CGE&Y observed that the bill CRIS format on February bills changed from the format of the bills previously printed.	Qwest generates the CRIS bills in one of two formats. Qwest system is in the process of being changed in January 2002 CGE&Y accepts the Qwest response.	Procedure
68.	AZIWO1152 C L O S E D	CGE&Y observed that a test case requesting that the secondary line only be converted, instead the primary line was converted.	The order writer who committed the original error was coached on correctly applying EBD dates. CGE&Y accepts the adjustment for the amounts in questions. These adjustments were validated against the November printed bills.	Training Opportunity
69.	AZIWO1153 C L O S E D	CGE&Y observed that the bills have a Federal Access Charge on the bills. The rate amount varies between the bills.	The MCC to reinforce the importance of verifying the correct USOCs associated with Federal Access Charges, as referenced in Qwest's 11/15/01 supplemental response, was issued on 11/16/01. The topic of the MCC was "CALC Charges." CGE&Y validated all adjustments to the accounts. All adjustments appeared on the bills correctly.	Training Opportunity
70.	AZIWO1154 C L O S E D	CGE&Y observed that charges made for 'No Solicitation Calls' appear to be listed either with the monthly service charges or separately in the Service Additions and Charges section.	CGE&Y's observation is correct. Order entry can cause this difference based on the needs of the order. To prevent similar errors, a system enhancement was implemented in October including edits that require USOCs to be entered on resold accounts with the correct RSID/ZCID identifier. The retest of this IWO validated the system enhancement and the retraining. The RSID was validated and was present with the appropriate rate applied. However, when the SEA USOC appears on the LSR, it often did not appear on the CSR and subsequently	Training Opportunity

FUNCTIONALITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
			<p>on the bill. On a sample of retest accounts where the LSR indicated SEA, only 1 in 5 accounts had the SEA USOC on the CSR. This indicates there is still an issue regarding the LSR not being accurately reflected on the Qwest CSR.</p> <p>The portion of this IWO that addresses the RSID is complete and the IWO is closed because the USOC now rates correctly. However, the root-cause analysis and remedies for the inconsistency between the LSR and CSR needs to be addressed by the parties.</p>	
71.	AZIWO1155 C L O S E D	CGE&Y observed that the monthly service charge for new activations does not include all the charges.	Qwest responded that when the original account was changed, the journaling procedure erred the record for NSW (no solicitation calls) due to a bad journaling code. This code was corrected at the end of January.	System Tables
72.	AZIWO1156 C L O S E D	CGE&Y observed that the transferred amount on the February bill is \$18.47. The balance on the January bill is \$36.03.	<p>The adjustment was appropriately applied for a payment credit.</p> <p>This has been validated by CGE&Y.</p>	Procedure
73.	AZIWO1157 C L O S E D	CGE&Y observed that the original account number in Jan was different than in Feb. In addition, there was a new account in the Feb bill for the same.	<p>When a reconnect of a disconnected service occurs, the customer code changes.</p> <p>Qwest response has been validated by CGE&Y</p>	N/A
74.	AZIWO1158 C L O S E D	The Pseudo-CLEC was set up as a tax-exempt account. CGE&Y observed that taxes were charged to the Pseudo-accounts.	<p>Qwest's billing system incorrectly taxed CLEC accounts in error from January through April 2001. Thus, bills generated during this timeframe were taxed in error as CGE&Y notes. Adjustments for this tax issue were applied to CLEC bills in the May and June timeframes.</p> <p>Qwest credited account [Redacted] for \$991.61. This credit appears on the Pseudo-CLEC's Oct 25, 2001 bill.</p>	Procedure

FUNCTIONALITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
			<p>Qwest provides a screen print, which displays this adjustment, via confidential attachment.</p> <p>CGE&Y validated that adjustments were applied correctly for the three sub-accounts. The adjustments appeared on the October bills.</p>	
75.	AZIWO1159 C L O S E D	CGE&Y observed that the February bill had a second bill for this TN.	<p>The original LSR was submitted. The next day a supp LSR was issued to cancel the original LSR however, the LSR was mis-interpreted by the typist to convert the account. The order writer responsible for this error has been identified and given subsequent LSR training.</p> <p>CGE&Y validated (invoice file 112501) that the expected adjustment was applied to the appropriate account.</p>	Training Opportunity
76.	AZIWO1160 C L O S E D	CGE&Y observed a credit problem on the proration of a disconnect.	<p>Qwest does not bill for the install date when calculating order fractionals. Qwest does bill for the disconnect date. So, using the logic in place for activations or deactivations one calendar day is added to the order date for the purpose of calculating fractionals.</p>	OSS Change
77.	AZIWO1161 C L O S E D	CGE&Y observed that on the February and March bills, there was an inconsistency in the details of the new accounts.	<p>The inconsistency in the USOC itemization was due to system coding that produced USOC itemization for all orders that contained PONs, but not for some orders that did not contain PONs. This coding was enhanced to itemize USOCs for all Wholesale orders.</p> <p>CGE&Y validated during retest that the USOCs were included on all new activations for September and October 2001.</p>	OSS Change
78.	AZIWO1162 C L O S E D	CGE&Y observed a problem with the rating of Federal Access USOC.	<p>Qwest provided re-training to the order typist who issued the incorrect service order. Qwest issued a Multi Channel Communication (MCC) to order typists that advises of the correct use of the USOCs 9LM and 9ZRM. The re-training and MCC were completed by 6/8/01.</p>	Training Opportunity

FUNCTIONALITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
79.	AZIWO1163 C L O S E D	CGE&Y generated an LSR to delete features. They were converted rather than deleted.	In Qwest's investigation, the LSR was processed incorrectly due to a series of errors while issuing the service order, and subsequently correcting the service order errors. Qwest issued an MCC and re-trained the rep responsible for the error.	Training Opportunity
80.	AZIWO1164 C L O S E D	CGE&Y observed that this TN is for a dual listing. The bill has a one-time charge of \$6.97 for the additional listing. This appears to be for USOC RLT. If so, there should also be a monthly recurring charge of \$1.23, which is not on the bill. Please research and provide the resolution.	<p>The service order shows a 1W1 (access line charge on a new install for primary listing). A service charge is assessed to change the main listing, whether it is listed, non-published, or non-listed) for a one time charge of \$6.97. Part of this order was to change the listing name, because of this change the 1W1 is a correct charge. There is no RLT on this account.</p> <p>There was no system modification required to address AZIWO1164.</p> <p>This IWO was merely a way to request clarification of when RLT is used versus 1W1. The request for clarification was supplied, therefore the subject of this IWO has been adequately addressed.</p>	OSS Change
81.	AZIWO1165 C L O S E D	CGE&Y observed that this TN is for a dual listing. The bill has a one-time charge of \$6.97 for the additional listing.	The LSR requested a full conversion from retail 1FR & AFH (multi-line residence account) to the CLEC. The incorrect USOCs NR9RJ and NR9RK, Private Line conversion charge, were typed on the service order in error.	Training Opportunity
82.	AZIWO1166 C L O S E D	CGEY observed two TNs were included on the UNE-Loop bill for 3/25/01.	Qwest's investigation indicates that an erroneous account number was processed. Additionally, the FOC included the LSR number rather than the order number. Retraining was conducted and an MCC was issued to ensure that orders are issued to match the LSR and FOCs are issued to match the order.	Training Opportunity
83.	AZIWO1167 C L O S E	CGE&Y observed a problem in performing the validation of the Summary Bills.	<p>Qwest responded to this data request (Qwest Internal Set 73, Request 445) from CGE&Y</p> <p>CGE&Y validated against the December, January and February bills.</p>	Procedure

FUNCTIONALITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
	D		The response explains the adjustments. This IWO can be closed.	
84.	AZIWO1168 C L O S E D	CGE&Y observed a problem in validating the ODUF calls against the bills.	It has been found that Qwest has followed the correct bill processing for UNE-P and Resale. The difference in format is due to UNE-P and Resale being different products. CGE&Y accepts the Qwest response to this issue.	Procedure
85.	AZIWO1169 C L O S E D	CGE&Y observed that ten TNs were included on the DUF files that do not belong to the Pseudo-CLEC.	In rare incidences, a condition could occur that would cause non-CLEC usage to be identified as CLEC usage. This occurred when an internal program did not clear its internal index's and ended processing with a CLEC record. A program fix was required and implemented in August 2001. CGE&Y validated the August and September ODUF files and verified that there were no calls for the line numbers mentioned above (which was as expected). CGE&Y is satisfied with Qwest's response.	OSS Change
86.	AZIWO1181 C L O S E D	CGE&Y requested a listing of the USOC file and received a file that included codes and descriptions, but not the rates	Qwest's Service Manager is responsible for providing the Resale USOC table, which was provided to the CLEC. This list does not include the rates, and the CLECs are instructed to go to the specific tariff or SGAT for rates. All other rates are set out in the rate page of the CLEC's contract. IABS and CRIS are different billing systems, using the same USOCs and rates.	Procedure
87.	AZIWO1182 C L O S E D	CGEY& observed a delay in two accounts between the time of the SOC and appearance of the bill.	Due to manual handling, the service order completion did not occur in the SOP until March. Since this incident, Qwest has closely monitored the centers to confirm manual processing turn around. Qwest's centers are consistently reporting 24 to 48 hour processing time of manual orders. CGE&Y accepts the Qwest response.	Training Opportunity

FUNCTIONALITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
88.	AZIWO1183 C L O S E D	CGEY observed that this account appeared to have a double charge for the NPU USOC.	<p>Qwest has determined the service order had a 1W1 erroneously added along with the NPU (Non-Pub) USOC. The NPU should have been the only USOC carrying the one time charge for a listing change.</p> <p>CGE&Y accepts the Qwest response to this issue.</p>	Training Opportunity
89.	AZIWO1184 C L O S E D	The P-CLEC requests that Qwest address why the SOC was received so late.	<p>Qwest has modified the Daily Completion Report and simultaneously caused the completion notifications to be sent. An enhancement to the CRM completion will be implemented with release 9.0 so that this situation will be addressed electronically.</p> <p>As mentioned in Qwest's response, Release 9.0 will not be implemented until December 1, 2001, to possibly correct the issue described in this IWO. From the Retest results and responses received, it is discernable that Release 9.0 will not impact the outcome of this issue. CGE&Y determined that this IWO could be closed based on the results logged during the Retest effort.</p>	OSS Change
90.	AZIWO1185 C L O S E D	CGE&Y observed that an LSR to disconnect an account was issued on 1/9/01, but the bill shows a disconnect of 1/17/01.	As a result of human error, the customer was billed through 1/17. A subsequent service order was issued to correct the problem, and an adjustment was rendered to change the billing disconnect date effective 1/9/01. The employee was coached.	Training Opportunity
91.	AZIWO1186 C L O S E D	CGE&Y observed that TNs that have a USOC code of SEA are displayed two ways under the Qwest Local Service section of the bill.	The examples provided by CGE&Y involved the SEA USOC being manually deleted from the conversion order in error. Since the service order did not carry the RSID Field Identifier ("FID"), the resale discount was not applied. Qwest has corrected these accounts and coached the individuals involved.	Training Opportunity
92.	AZIWO1187 C L O S E	Twelve Pseudo accounts had usage calls incorrectly recorded on the DUF.	This is a test account set up issue, not a systems issue. In some cases, the lines set up were in actual locations where extra loops were available. In a few cases, those lines began to be used by the inhabitants of those locations. This	Procedure

FUNCTIONALITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
	D		<p>resulted in additional DUF records being sent that CGE&Y did not expect. As these were discovered, the loop was removed to prevent further use.</p> <p>CGE&Y has validated that the pseudo accounts referenced in DR 220 are not showing up on ODUF reports. July, August and September ODUF files were reviewed for these accounts. CGE&Y accepts Qwest's response that these accounts have now been corrected.</p>	
93.	AZIWO1188 C L O S E D	CGE&Y requests a formal definition of when the billing for activations actually starts.	<p>Qwest's review of both examples of activations and deactivations and the assumptions by the Pseudo-CLEC are correct for the end date.</p> <p>CGE&Y accepts the Qwest explanation</p>	Procedure
94.	AZIWO1189 C L O S E D	CGE&Y observed that invoices are showing a payment due date of 22 days from the date of the invoice.	<p>The amount in the bill's past due balance field is correct. However, the amount the late payment charge is calculated on is occasionally less than that of the past due balance field. This means that, in some circumstances, the late payment charge assessed by Qwest is less than the amount that Qwest is entitled to bill. Qwest does not, however, pursue recovery of under billed late payment charges.</p> <p>CGE&Y understands and accepts the clarification (of entity money kept within each sub account) provided in Qwest's November 1st response.</p>	OSS Change
95.	AZIWO1190 W I T H D R A W N	A significantly ($r0 < .05$) and substantially ($d > .0709$) lower percentage of non-dispatched out-of-service troubles were cleared within 24 hours for the Pseudo-CLEC than for Retail. CLECs did not experience this disparity of M&R service over the six-month testing period.	Retracting due to the low volumes on PCLEC and parity existing for the CLEC aggregate results.	N/A

FUNCTIONALITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
96.	AZIWO1191 C L O S E D	Non-dispatched UNE-P results reveal a disparity between the Pseudo-CLEC and Qwest retail. Aggregate CLEC results are indeterminate but leaning towards disparity for UNE-P.	<p>Qwest notes that the CLEC sample sizes, are very small and that the Qwest retail comparative sample sizes are very large. Nevertheless, Qwest meets parity in nearly every month in the production data.</p> <p>The Commercial CLEC results indicate insufficient evidence to make a determination concerning parity.</p> <p>Disparity is no longer in evidence and commercial CLEC results indicate that Parity MTTR is being provided under Qwest's expanded UNE-P service offering.</p>	Metrics
97.	AZIWO1192 W I T H D R A W N	A substantially and significantly higher percentage of commercial CLEC Business and UNE-P troubles were classified by Qwest as customer-related than for its own retail customers. This is not necessarily due to Qwest.	Retracting because the PCLEC is in parity. The CLEC disparity Aggregate is outside the scope of the 271 test.	N/A
98.	AZIWO1195 C L O S E D	In comparing EDI bills to paper bills, CGE&Y observed discrepancies in the Charges Due where the total amount due did not match the amount due as indicated on the paper bill (but all items and totals matched).	<p>Qwest has discovered that the Transferred Balance line of the bill is being added in twice to the Electronic bill totals. This internal issue will be fixed on October 12, 2001.</p> <p>Validation was performed on the October electronic files for Resale and UNE-P. The system change has fixed the problem and the totals are now correct.</p>	OSS Change
99.	AZIWO1197 W I T H D R A W N	The trouble status times in the status update emails provided by Qwest to the Pseudo-CLEC are always seven hours later than corresponding receive and clear times of the troubles in the Qwest MTAS Adhoc data files.	CGE&Y is satisfied with Qwest's response and has verified that this is properly covered in Qwest documentation which was originally overlooked by CGE&Y.	N/A

FUNCTIONALITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
100.	AZIWO1198 C L O S E D	The Pseudo-CLEC observed Qwest-caused down times for the IMA-GUI interface that exceeded those reported in Qwest's raw data for the months of January through April.	Based on the PID definition of GA -1 and the data provided, Qwest has correctly measured outages and correctly reported GA -1 for the dates in question in January through April 2001.	Metrics
101.	AZIWO1199 C L O S E D	Of the 14 completed service orders for which the Pseudo-CLEC received jeopardy notifications, 5 were not included in Qwest's adhoc Jeopardy data. These orders were therefore not considered by Qwest in their performance measurement data processing.	Qwest's response indicates that four of the five jeopardy notifications not acknowledged in Qwest's adhoc jeopardy data were for missed commitments that were due to reasons outside of Qwest's responsibility. Therefore, of the 10 jeopardy notifications received by the Pseudo-CLEC which were eligible for the jeopardy measures, only one, N00710728, was not recorded as a jeopardy in Qwest's adhoc data. Qwest is taking measures to improve the process which allowed for "improper format of notations" which led to this error. This situation is not amenable to retest, as a substantially larger volume of orders than the entire functionality test, resulting in all eligible received jeopardy notifications being correctly noted as jeopardies in Qwest's adhoc jeopardy file, would be needed for a retest to give reasonable confidence that this situation would not recur.	Metrics
102.	AZIWO1200 C L O S E D	There are 30 orders for which the Pseudo-CLEC received a SOC that are not reported as a completion in Qwest's Adhoc RSOR data.	CGE&Y accepts Qwest's explanation for the CLEC ID field and finds that the process improvements and coaching that Qwest has provided regarding the (4) orders of the (30) questioned should reduce the likelihood of improperly designating the CLEC ID field.	Procedure
103.	AZIWO1201 C L O S E D	There are 10 orders reported in Qwest's Adhoc RSOR data as completions associated with the Pseudo-CLEC for which Pseudo-CLEC captured test data indicates that no SOC was received.	CGE&Y agrees with Qwest's assertion for two of the three orders detailed in Scenario 1. For the remaining order, CGE&Y does not have any information indicating a service order completion.	Metrics

FUNCTIONALITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
104.	AZIWO1202 C L O S E D	The 35 Pseudo-CLEC LSRs identified by PONs received FOCs from Qwest. However, Qwest's adhoc CRM data did not contain any FOCs for these PONs.	<p>Qwest's research indicates that there is no data problem. Qwest provided a confidential spreadsheet to support its findings.</p> <p>CGE&Y determined that all of these 24 incorrect rejects were manual rejects. They therefore constitute 5% (6 of 118) Pseudo-CLEC manually rejected IMA/GUI LSRs currently included in PO-3A-1, and 10% (18 of 181) Pseudo-CLEC manually rejected EDI LSRs currently included in PO-3B-1. CGE&Y agrees with Qwest that these LSRs should only be counted either as a FOC or a reject, but disagrees with Qwest's counting of them as a reject, and recommends they be counted as a FOC in order for these PID measurements to correctly reflect CGE&Y's understanding of their intent.</p> <p>CGE&Y recognizes that the effort in resolving the data reconciliation discrepancies of this IWO has led to discovery of an issue whose proper venue of discussion is a TAG forum on the appropriateness of PID measurement definitions. Therefore, CGE&Y closes this IWO with a recommendation that this issue be considered in a future TAG meeting.</p>	Metrics
105.	AZIWO1203 C L O S E D	The 9 Pseudo-CLEC LSRs identified by PONs received no FOCs from Qwest. However, Qwest's adhoc CRM data did contain FOCs for these PONs.	<p>Five of the six missing EDI FOCs were transmitted on (or within two days of) some of the missing EDI FOCs mentioned in AZIWO1204 and AZIWO1205. CGE&Y considers that their non-receipt may have been due to a temporary, intermittent problem on the Pseudo-CLEC side.</p> <p>As the incidence rate of the FOC discrepancies for which Qwest is responsible is very low, AZIWO1203 may be closed.</p>	N/A
106.	AZIWO1204 C L O S	Of (at least) 2,021 Pseudo-CLEC FOCs, (at least) 459 were not in Qwest's adhoc CRM data. Of these, 75 are not Chatter FOCs. For the valid FOCs included in Qwest's	CGE&Y performed further research on the FOCs for the LSRs with the 43 PONs involved in this IWO by utilizing Qwest's confidential attachment which indicates all FOCs	Metrics

FUNCTIONALITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
	E D	CRM data, the time recorded for FOC issuance in CRM differs by more than an hour from the P-CLEC receipt time.	sent out by IMA on those PONs, and additional research from the Pseudo-CLEC. As the incidence rate of the FOC discrepancies for which Qwest is responsible is very low, and Qwest is taking remedial action to resolve them, AZIWO1204 and AZIWO1205 may be closed.	
107.	AZIWO1205 C L O S E D	No FOC was received by the Pseudo-CLEC within an hour of the time any of the noted 49 FOCs was indicated as issued in Qwest's adhoc CRM data.	As the incidence rate of the FOC discrepancies for which Qwest is responsible is very low, and Qwest is taking remedial action to resolve them, AZIWO1204 and AZIWO1205 may be closed	OSS Change
108.	AZIWO1206 C L O S E D	Sixteen M&R contacts (on 11 unique TNs) from the Pseudo-CLEC's Incidental Contacts and Issues Log matched 19 troubles found in Qwest's adhoc MTAS tables. However, the four MTAS troubles matched by three of these contacts (on three unique TNs) were all designated as Qwest Retail troubles rather than Pseudo-CLEC.	Qwest responded that for 3 of these tickets, the repair ticket was opened before LMOS had any record of the accounts being converted to Wholesale. Therefore, CGE&Y finds that it is unreasonable to expect these tickets to be properly classified as Pseudo-CLEC. CGE&Y has verified that the remaining ticket was for an account that was never part of the Functionality Test. CGE&Y does not understand why the customer for that account reported a trouble to the Pseudo-CLEC.	Metrics
109.	AZIWO1207 C L O S E D	Among non-designed service troubles, 13 M&R contacts from the P-CLEC's Incidental Contacts and Issues Log and three troubles from CGE&Y's CEMR-submitted planned trouble log did not match any troubles found in Qwest's adhoc MTAS tables.	Upon further research by CGE&Y and the Pseudo-CLEC, CGE&Y has determined the following: <ul style="list-style-type: none"> Two of the contacts resulted from CEMR access difficulties. In one case, the ticket was ultimately issued and is found in MTAS several days after the contact. In the other case, it was not possible to issue the ticket. Two of the contacts actually concerned circuits. These contacts were successfully matched to tickets already in WFAC. Two contacts were for 	Procedure

FUNCTIONALITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
			<p>troubles on lines which were disconnected shortly thereafter. As CGE&Y was aware that this friendly was shortly going to be removed, CGE&Y did not issue a ticket.</p> <ul style="list-style-type: none"> One contact involved a query about previously closed troubles whose status was not being indicated as closed. <p>In these seven cases, the fact that no trouble was found in MTAS has been satisfactorily explained.</p> <p>CGE&Y has evaluated and agrees with Qwest's explanation of these contacts.</p>	
110.	AZIWO1208 C L O S E D	There was no Pseudo-CLEC record of the sixteen MTAS tickets noted.	Eight of the reported occurrences were due to physical plant disruptions, that occur in the normal course of business. Six occurrences were resolved by instructing the customer or referring the customer back to the CLEC. The two remaining occurrences were tested and found in working order.	Metrics
111.	AZIWO1209 W I T H D R A W N	Among designed service troubles, 11 M&R contacts from the P-CLEC's Incidental Contacts and Issues Log did not match any troubles found in Qwest's adhoc WFAC tables.	This IWO may be withdrawn, as all troubles on circuits in the Pseudo-CLEC data (other than on pending disconnects) were included in WFAC.	N/A
112.	AZIWO1210 C L O S E D	Qwest's adhoc CRM data consisted of 314 unique manual rejects assigned to the P-CLEC as part of the Functionality Test. Of the 314 manual rejects in CRM, 205 were matched to a reject record in the P-CLEC data. The remaining 109 manual rejects reported in CRM were not identified in the P-CLEC captured data.	<p>Qwest does not believe that CGE&Y's data reconciliation process reveals a current issue with manual rejection notices. Qwest made changes in June 2001 to improve the tracking and reconciliation of pre-order/order transactions.</p> <p>Since the PID rejection measures (PO-3 and PO-4) are based on Qwest's responsibility of sending notification rather than the CLEC's actual receipt of the notification (as Qwest cannot be held responsible for failures occurring outside its network), and since the</p>	Procedure

FUNCTIONALITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
			screen shots indicate that Qwest has rejected the outstanding seven LSRs and at least scheduled them for immediate notification to the Pseudo-CLEC, this seems close enough to the definition of provision of notification of rejection, that the small number of rejects not actually received can be chalked up to email or other non-Qwest failures.	
113.	AZIWO1211 C L O S E D	The Pseudo-CLEC did not receive CRIS bills for the noted months and products during the Functionality Test.	Qwest determined that a Qwest engineer on duty did not have the proper RACF authority to create data for the Pseudo-CLEC. It appeared to the engineer, however, that the file transfer executed successfully. Qwest modified the procedure.	Procedure
114.	AZIWO1213 C L O S E D	Qwest adhoc data for Performance Measure BI-3 reports 3 credit adjustments that were not in the CRIS bills provided to the Pseudo-CLEC.	When the account was established, the service order erred and the GRP and BAPC fid were incorrectly removed from the order. Because these FIDS were removed, this account established as a stand alone bill, not billing to the summary bill. The adjustments did apply to the May 25, 2001 bill but because this account was not associated with a summary arrangement, these adjustments did not appear on the summary bill. CGE&Y accepts Qwest's explanation why the adjustments in question were not identified on the summary May 25, 2001 CRIS bill and Qwest's proposed resolution to ensure FIDs are included on service orders.	Metrics
115.	AZIWO1214 C L O S E D	Qwest adhoc data for Billing Completeness (BI-4) reports 10 out of 1230 recurring or non-recurring charges associated with completed service orders did not appear on the correct bill during the period February through June 2001.	Qwest is targeting recalculating BI-4A results for at least 2 months of historical data by Tuesday, December 11, 2001 and providing CGE&Y an ad hoc file with the historical information on this date. CGE&Y has evaluated the information provided in the Qwest response and agrees with the explanation.	Metrics

FUNCTIONALITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
116.	AZIWO1215 C L O S E D	<p>Indicator 4 Wrong on UNE-P:</p> <p>CGE&Y conducted a controlled supplemental test of the accuracy of Daily Usage Files (DUF) records to insure no issues remained in Arizona considering the multiple system updates by Qwest that may affect the generation of daily DUF records. These updates occurred from September 2001 through December 2001.</p> <p>CGE&Y found 27 ODUF records where the Indicator 4 was 6 instead of 7 on UNE-P accounts. CGE&Y requests an explanation of the cause of the wrong indicator 4 value on these records.</p>	<p>CGE&Y reviewed the production data for 1127 DUF records associated with 17 unique telephone numbers installed as Resale or UNE-P on 4/1/2002 and 4/2/2002. The DUF record dates were 4/2/2002 through 4/9/2002. All DUF records reviewed for these accounts reflected the correct Indicator 4 value demonstrating the process change made on 3-22-02 is working correctly. This IWO is closed.</p>	Procedure
117.	AZIWO1216 C L O S E D	<p>SOCs apparently transmitted before an order was completed.</p> <p>In examining Pseudo-CLEC data available for the PO-6 measurement, CGE&Y found that in 12 cases out of 262 where both SOP completion and SOC times were available, a SOC was apparently transmitted before an order was completed.</p>	<p>Qwest's response indicates that for 11 of these 12 instances there was a delay in notification to the Pseudo-CLEC that the physical work had been completed resulting in receiving the SOC prior to notification that the work was complete. Upon further investigation, the remaining instance was due to CGE&Y's duplication of data and not that Qwest had actually sent duplicate FOCs and SOC's. CGE&Y finds that Qwest is calculating PO-6 in accordance with the PID since the physical work had actually been completed as noted in the adhoc database. However, CGE&Y recommends that the status update include the date and time the physical work is completed in WFA in order for the CLEC to reconcile its own performance measurement results.</p>	Procedure
118.	AZIWO1217 C L O S E D	<p>RSOR adhoc data and LSR/not equal to LSR submission date</p> <p>Among the 980 orders whose order numbers start with 'N' or 'C' present in Qwest's RSOR adhoc data and for which LSR submission date and FOC date were available in the Pseudo-CLEC data, the application date was not equal to either the LSR submission date (last LSR prior to first FOC) or the first FOC receipt</p>	<p>Qwest response to this IWO indicates that of the 980 LSRs included in CGE&Y's analysis, 6 contained incorrect application dates mainly due to human error. However, CGE&Y's main concern is with the definition of the OP-4 measure contained within the PID because a key element in the calculation of this measure is the application date and a CLEC has no way of determining what that date is when it differs from the CLEC's LSR</p>	Training Opportunity

FUNCTIONALITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
		date on 44 of the orders.	submission date. This was the case for 253 of the Pseudo-CLEC's 980 LSRs mentioned above. This issue does not suggest that Qwest is currently operating in a manner inconsistent with the PID, therefore this IWO is considered closed. However, since this severely impacts a CLEC's ability to perform any data reconciliation, CGE&Y would recommend that Qwest provide the application date in the notifiers sent to the CLEC or, in the alternative, the TAG should consider revising the PID to use the LSR submit date in calculating the OP-4 measure.	
119.	AZIWO1218 C L O S E D	MTAS Data Discrepancy In examining Pseudo-CLEC data available for MR-9, CGE&Y found that Qwest MTAS data indicated that the repair appointment for the trouble on the TN REDACTED was met. However, Pseudo-CLEC data indicates that this trouble had a scheduled repair appointment date of June 16, 2001 at 8:00 PM, but did not clear until June 17, 2001 at 10:55 AM. Qwest adhoc MTAS data does not contain the appointment date and time, but did agree with the Pseudo-CLEC captured clear time for this trouble.	Qwest agrees that a modification to the MR-9 PID clarifying how time delays are handled is advisable. In this case, the question is not one of excluding a record, but rather one of not counting the time interval associated with "no access," which would be consistent with other MR-n PIDs. Accordingly, Qwest will propose PID revisions for MR-9 that address this consistent with the other MR-n PIDs and with how we have been calculating MR-9. CGE&Y has verified that the repair appointment mentioned in this IWO was in fact a no access and the TAG has agreed to modify the MR-9 PID to exclude repair appointments missed due to no access from the performance measurement results, therefore CGE&Y has closed this IWO.	Metrics
120.	AZIWO1219 C L O S E D	Problems with WFAC Data In examining Pseudo-CLEC data available for the maintenance and repair measurements, CGE&Y found that Qwest excludes time delays due to no access situations prior to its inclusion in WFAC. Moreover, the actual trouble receipt and clear date times are not included in WFAC.	For the 17 trouble tickets identified in this IWO, Qwest's open time matches all of the P-CLEC Trouble open times. The P-CLEC Trouble Cleared Time does not match Qwest's WFA data because Qwest sent the incorrect restoral time to the P-CLEC through the Electronic Bonding Verification (EBV). The CEMR system currently sends a status email for TR State cleared and TR State closed which currently display the date/time stamps from the OSS function in the TR Status Time and Restored Time fields, rather than the actual time of restoral. Qwest is proposing a fix, which changes the Restored Time field to the date and	Metrics

FUNCTIONALITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
			<p>time that the technician enters as the restoral time. Qwest is submitting the proposed changes through the Change Management Process (CMP) for review and approval by the CLEC community. Qwest plans to submit the proposal as a walk-on at the March 21, 2002 CMP meeting.</p> <p>Qwest's response to this IWO indicates that the CLEC is not currently provided with the date and time a trouble is cleared for designed services from WFAC through the status update emails provided. This issue does not suggest that Qwest is currently operating in a manner inconsistent with the PID or that its performance measurement data gathering or calculating methods are incorrect, therefore this IWO is considered closed. However, since this severely impacts a CLEC's ability to perform any data reconciliation, CGE&Y would recommend that Qwest provide the trouble received and trouble cleared date and time through WFAC as well as in the notifiers sent to the CLEC.</p>	
121.	AZIWO1220 C L O S E D	In examining data available for jeopardy notice intervals, CGE&Y found that for order N50465941 the Qwest adhoc jeopardy data indicates that notification was transmitted at 5/30 at 16:19. However, Pseudo-CLEC data indicates that this jeopardy was received on 5/31 at 12:19. Both data sources agree that the due date was 6/4.	<p>Qwest has investigated order N50465941 and has found that the date and time for the jeopardy notification was incorrectly recorded by Qwest as 5/30 at 16:19 as CGE&Y states. The process for sending jeopardy notifications to CLECs receiving them through this medium is for the Qwest representative to send the notification by fax and for the account to be noted manually in RTT. The date and time is recorded in RTT at that time. The process is such that these two actions are carried out in tandem. In this instance the process was not followed and the account was noted in RTT without the fax being transmitted. Upon recognizing the omission the next day, the fax notification was sent to the Pseudo CLEC. This process deviation has been addressed with the representative.</p> <p>Based on the explanation provided by Qwest, CGE&Y has closed this IWO</p>	Procedure

FUNCTIONALITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
			due to manual error, but recommends that Qwest implement quality control procedures to ensure that the jeopardy notice is transmitted to the CLEC at the same time as it is entered into RTT for performance measurement reporting. Supervisory review of this process will serve to ensure that such a process is followed.	
122.	AZIWO2013 C L O S E D	A Friendly test account connected to LPIC Touch America Detail dialed to identify which intraLATA carrier was assigned to the account.	Qwest was able to reproduce the stated error. The issue has been fixed and now correctly shows Touch America.	System Tables
123.	AZIWO2050 C L O S E D	On the Review Full CSR screen, the billing telephone number was entered in the WTN field to retrieve the CSR.	Qwest acknowledges that this IWO identifies a system problem. A system patch was deployed to resolve this issue.	OSS Change
124.	AZIWO2052 C L O S E D	Inappropriate contact with the end-user customer regarding a pending CLEC new install order.	Qwest's records do not support the claim that Qwest inappropriately contacted the "end-user customer" regarding a pending CLEC new install order.	Training Opportunity
125.	AZIWO2053 C L O S E D	Numerous resale orders were rejected with the message "RESALE Form: Service Details Section: Invalid USOCs...".	Qwest does not agree that this IWO identifies a problem. The error message given was displayed as a result of an incorrect TOS value of 1BF used on the LSR.	N/A
126.	AZIWO2054 C L O S E D	Numerous resale orders were rejected with the message "RESALE Form: Service Details Section: Invalid USOCs ...".	Qwest believes that the USOC was incorrectly-typed	N/A

FUNCTIONALITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
127.	AZIWO2057 C L O S E D	The DL of the LSR in EDI has an entry for both the primary and additional listing, but when the CSR was retrieved to validate order completion, the primary listing was present, but the additional listing was not.	Qwest acknowledges human error. Qwest has taken the action to coach the employee responsible on how to avoid this error in the future.	Training Opportunity
128.	AZIWO2058 W I T H D R A W N	Trouble tickets are created in IMA, however, when a call is made to Qwest for status, the Qwest trouble tracking numbers cannot be located by Qwest.	Its initiator has withdrawn AZIWO2058. The issues, which are brought up in AZIWO2058, will be covered in a separate IWO.	N/A
129.	AZIWO2060 C L O S E D	After an order was completed, the representative attempted to enter a change order, the system returned the error message "Not authorized to retrieve CSR".	Qwest implemented changes to four (4) error message. CGE&Y verified that the subject of this IWO has been addressed.	OSS Change
130.	AZIWO2061 C L O S E D	An order was issued and the first LSR came back from HP with (2) new TNs for this friendly. Neither number was issued for the friendly.	FOC sent on 2/13/01 has the correct telephone number that was installed. The order is complete and has posted to the Qwest internal systems. Therefore, the CSR reflects the correct information.	OSS Change
131.	AZIWO2062 C L O S E D	The EU form has the correct billing address entered by the representative. The CSR however has the customer's service address as the billing location.	Qwest research has found that the LSR and service order and issued correctly. Qwest provided clarification about the how the end user information is presented in resale and conversion orders. CGE&Y understands this process and does not perceive this to be a problem.	N/A
132.	AZIWO2068 C L O S E D	An order was submitted to Qwest with no indication of manual intervention, the expectation was that the FOC would be received within 20 minutes.	From the Retest activities 44 orders were selected to validate this issue. Of the 44 orders 36 orders meet the FOC notification timeline for each specific order type. Six orders did not meet the FOC notification timeline from Service Interval Guide due to various	Procedure

FUNCTIONALITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
			<p>provisioning errors. Two FOCs did not meet the expected timeline as specified in the Service Interval Guide.</p> <p>CGE&Y determined that this IWO should be closed based on the results logged during the test effort. The number of incidents recorded does not constitute enough evidence to keep this IWO open.</p>	
133.	AZIWO2069 C L O S E D	An order was submitted via EDI and a FOC has not been received.	<p>The Qwest order typist that did not send the FOC has been re-trained on the correct process for sending FOCs.</p> <p>CGE&Y selected thirty one (31) EDI retest accounts to verify if FOCs failed to be received by the P-CLEC. CGE&Y determined that all 31 accounts submitted via EDI received FOCs. CGE&Y sees no evidence that this issue is a recurring problem based on the retest effort results.</p>	Training Opportunity
134.	AZIWO2070 W I T H D R A W N	Error message: CFA out of range, per AT&T document they are in range.	This IWO has been withdrawn. This issue is being resolved through a data request.	N/A
135.	AZIWO2071 C L O S E D	Order entered to change a retail line to UNE-P received error message "RESALE Form:Service Details Section:Invalid ...".	<p>Qwest has researched the error and agrees that this IWO constituted a system problem.</p> <p>CGE&Y has performed a successful retest, and this IWO has been closed.</p>	OSS Change
136.	AZIWO2095 C L O S E D	The Loss & Completion report for the High Performance Communications has missing or invalid data through out the report.	Qwest employees have been coached and re-trained on the standard procedures.	Training Opportunity

FUNCTIONALITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
137.	AZIWO2098 C L O S E D	While attempting to test the functions of the CEMR system of trouble reporting, CGE&Y observed that the "MLT" function of the system was unavailable.	The participating Pseudo-CLEC's understanding is correct in that the digital certificate process will update an individual's access to specific records based on the requested ACNA/RSID.	System Tables
138.	AZIWO2099 C L O S E D	Interim results covering orders completed by April 30, 2001 indicate a disparity for OP-4, which is already statistically significant and substantial as defined by the criteria of Section 9 of the TSD.	Qwest has been investigating the results of OP-4C and expects the actions documented to move this measure to parity.	Metrics
139.	AZIWO2100 C L O S E D	Interim results covering orders completed by April 30, 2001 indicate disparities for OP-4, which are already statistically significant and substantial as defined by the criteria of Section 9 of the TSD.	<p>Qwest results for April indicate that non-dispatched Centrex 21, PBX and ISDN BRI are all performing at parity at an aggregate CLEC level.</p> <p>During the retest timeframe, there were no PBX orders provisioned for either Pseudo-CLEC or Commercial CLEC customers.</p> <p>While the Centrex 21 Pseudo-CLEC and Commercial CLEC provisioning intervals seem similar to retail, the data is insufficient to make a determination regarding parity.</p> <p>For non-dispatched (non-designed) Basic Rate ISDN orders, both Pseudo-CLEC and Commercial CLEC provisioning intervals were more than twice as long as Retail, with a significant and substantial disparity determination made for the Pseudo-CLEC retest data. This confirms the corresponding disparity finding from the functionality test.</p> <p>The only Pseudo-CLEC designed Basic Rate ISDN order provisioned during the retest was provisioned quite fast for a designed order, resulting in a parity determination.</p>	Metrics
140.	AZIWO2101 C L O	During the analysis of a customer trouble the CSR of the account was reviewed. The Reseller ID field was blank on the CSR instead of the	Qwest has completed research and has affirmed that the missing entry in the cross-reference table was the cause of the issue.	OSS Change

FUNCTIONALITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
	S E D	correct reseller ID of H08. CGE&Y records show that the SOC on this order was received on 4/27/01.	Qwest rectified the table for the account in question, which resolved the issue experienced by the P-CLEC. CGE&Y did further CSR reviews during the investigation performed for AZWO2060. In none of the cases reviewed did CGE&Y experience the Reseller ID field to be blank .	
141.	AZIWO2102 C L O S E D	During Maintenance & Repair Testing, several trouble tickets were successfully entered, and submitted, though the CEMR system, but the trouble tickets were not present on the Maintain Trouble Report screen	CEMR has been modified to retain tickets for better trouble reporting. CGE&Y has determined that this IWO can be closed based on the results logged during the retest effort.	OSS Change
142.	AZIWO2103 C L O S E D	M&R trouble tickets were submitted through the CEMR system. When checked in the Maintain Trouble Report screen, the status showed as Open/Active and appeared "normal" with the exception of one ticket.	Qwest determined that a software bug resulted in the corruption of the Tracking Report ID noted above. This bug was fixed in the CR Patch MEDIT05301 implemented in production July 7th, 2001 CGE&Y engaged in the following activities to verify that the subject of this IWO has been addressed: <ul style="list-style-type: none"> CGE&Y performed a reanalysis of CEMR Maintenance and Repair Ticket data. CGE&Y validated the CEMR release notes are posted in the Qwest website. CGE&Y verified software fixes were completed through the execution and results of the retest cases. CGE&Y has determined that this IWO can be closed based on the results logged during the retest effort of this IWO.	OSS Change
143.	AZIWO2104 C L O S E D	Interim results covering orders completed by April 30, 2001, indicate a disparity for OP-4 which is already statistically significant and substantial as defined by the criteria of Section 9 of the TSD for the disaggregation of NonDispatched UNE-P-POTS orders	Qwest believes that this conclusion is in error. Qwest is uncertain what the term negotiated due dates is intended to represent in this IWO. During the retest timeframe, 49 Non-Dispatched UNE-P orders were eligible for OP-4, and were provisioned within 2.66 days, which is only a quarter of a	Metrics

FUNCTIONALITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
			(business) day longer than the Retail average. The commercial CLEC data during the same time frame had provisioning intervals slightly shorter than retail on average. The commercial CLEC data was sufficient to make a determination of parity for this measure on this disaggregation. It should be noted that the modification of the measurement to exclude orders involving only Feature changes and/or PIC changes affected the results in the direction expected – a greater increase in provisioning intervals for retail than for CLEC orders.	
144.	AZIWO2105 C L O S E D	The RSOR data files covering HPC transactions from December 2000 through April 2001 reveal that 17 Service Order Numbers occur more than once for HPC.	Using the Jan 01 to Sep 01 corrected data from the Qwest adhoc CGE&Y found no occurrences of a duplicate record. The conclusion was that Qwest had corrected the problem going back to Jan 01.	OSS Change
145.	AZIWO2106 C L O S E D	The PO-6 performance measurement is now based on a new data source WNOT (Work Completion Notifications). Many service orders that have been completed are not being included in this data source.	Additional development and proposed PID revisions are currently underway for PO-6. Qwest requests this Test Incident be withdrawn and the issue re-evaluated by CGE&Y once revised data is presented. CGE&Y has concluded after Data Reconciliation activities that the completions are correctly posted in WNOT.	Metrics
146.	AZIWO2107 C L O S E D	The logarithmic average provisioning interval is significantly and substantially longer for Pseudo-CLEC dispatched BUS orders within MSAs than for Retail.	Qwest does not agree with CGE&Y's assertion that "Qwest is meeting parity in [the] sense that the arithmetic means are close." In fact, Qwest is meeting parity because the CLEC performance is equal to or better than the retail performance, as indicated by the Pseudo CLEC data and the aggregate production data. The commercial CLEC data was sufficient to make a determination of parity for this measure on this disaggregation. It should be noted that the modification of the measurement to exclude orders involving only Feature changes and/or PIC changes affected	Metrics

FUNCTIONALITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
			the results in the direction expected – a greater increase in provisioning intervals for retail than for CLEC orders.	
147.	AZIWO2108 C L O S E D	In the Functionality Test, interim results covering the period up to April 30, 2001, indicate that FOCs are not being returned to the Pseudo-CLEC in a sufficiently timely fashion at the benchmark rate of 90% for Resale LSRs submitted via EDI.	<p>Qwest agrees that the historical performance for PO-5B-2A required improvement based on the Pseudo-CLEC results. Qwest began addressing this issue in February 2001. Qwest made system (IMA 7.0) and process improvements to the FOC processes, providing additional focus on the Centrex and Complex Resale products.</p> <p>CGE&Y determined that PO-5B-2A results during retest exceeded 90%.</p>	Metrics
148.	AZIWO2109 C L O S E D	Better Jeopardy notification provided to HPC than CLECs for Non-Designed Missed Due-Date Orders (PO-8, PO-9)	<p>Qwest is committed to developing performance measurements that fairly and accurately measure performance, and is willing to consider improvements to its PIDs and measurement techniques that will accomplish that.</p> <p>No Jeopardy notifications were provided to the Pseudo-CLEC which met the PID criteria during the retest period. Qwest's manual tracking effort to improve jeopardy notification to CLECs in response to this and other CGE&Y-issued Jeopardy-related IWOs has succeeded in removing the disparity previously observed for PO-9, improving advance jeopardy notification rates provided to commercial CLECs from 21% to 59% to achieve a (better than) parity result. While there has been substantial improvement in PO-8 as well, increasing logarithmic average jeopardy intervals from 1.33 days to 1.88 days, this substantial improvement has been insufficient to achieve a parity finding. PO-9 results are now indeterminate leaning towards disparity.</p>	Metrics

FUNCTIONALITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
149.	AZIWO2110 C L O S E D	OP-3 Disparities: RES and ISDN-BRS. The table indicates that commitments to the Pseudo-CLEC were not met as frequently as for Retail customers on Residential and ISDN Basic Rate Services orders.	CGE&Y agrees that the calculated rate of 97.33% is acceptable. This IWO can be closed. The variance in the P-CLEC and CLEC does not affect the level of service provided by Qwest.	Metrics
150.	AZIWO2111 C L O S E D	UNE-P No advance Jeopardy notification provided (PO-9).	CGE&Y determined that this IWO has been satisfied. The jeopardy notifications of missed due dates were not experienced in the results logged during the retest effort and PO-9 results for two of the last four months were lower than expected but were in parity with retail.	Metrics
151.	AZIWO2112 W I T H D R A W N	CGEY has not received the following bills. <u>Hardcopy:</u> UNE-P (J-520-111-2343-921M) UNE-L (J-520-111-7816-350M) <u>EDI:</u> Resale (J-520-111-7814-330M) UNE-P (J-520-111-2343-921M)	After further investigation, it was learned that HPC did not include the suite number on the billing section of the Pseudo-CLEC questionnaire which was sent to Qwest to notify them of the new HPC address when they moved. HPC was notified of this and requested to update the questionnaire to include the suite number and resubmit it to Qwest. This has been done along with a request to re-send the missing bills. This IWO can now be withdrawn.	N/A
152.	AZIWO2113 C L O S E D	Interim results covering LSRs received by May 31, 2001, indicate low flow-thru rates for CLEC LSRs.	After further analysis, it was determined that the majority of the data was for the month of May. CGE&Y agrees with Qwest that new project types introduced in that time frame caused the rate to change. Also due to this measure being a TBD standard, CGE&Y cannot verify the original problem still exists. Therefore, CGE&Y requests this IWO be closed.	Metrics
153.	AZIWO2114 C L O S E D	Interim results covering LSRs responded to by May 31, 2001, indicate a significantly and substantially higher Pseudo-CLEC LSR Rejection rate than that experienced by commercial CLECs	Qwest analysis indicates that in all but one case, the P-CLEC reject percentage was actually lower than that of the aggregate CLEC. The errors reported to CGE&Y by Qwest showed the majority were related to duplicate PON/VER numbers and clerk input errors in the administrative portion of the LSR. The IWO can be closed.	Metrics

FUNCTIONALITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
154.	AZIWO2115 C L O S E D	CGE&Y has observed multiple instances of misuse of the FOC communication method as described in Qwest's White Paper 'Firm Order Confirmation Evaluation Results' dated August 6, 2001.	In very rare situations (3 occurrences in August out of approximately 160,000 LSRs), Qwest had been sending an FOC after LSR Completion. Qwest will discontinue sending an FOC in this situation. Qwest has standardized the process so that any action which is necessary at the time of posting to the billing systems and which impacts the CLEC will be communicated through e-mail or through a phone call. This process was implemented during September 2001.	Procedure
155.	AZIWO2116 C L O S E D	While Qwest's PO5 results overall reflect performance within the objectives, CGE&Y has observed that frequently a reject received after the FOC could have been prevented with some basic online edits that would guide the CLEC in providing accurate information.	CGE&Y engaged in the following activities to verify that the subject of this IWO has been addressed: <ul style="list-style-type: none"> • Issue Test Cases for LSR processing • Observed and documented LSR processing results • Selected test cases results which align with the issue and subject matter for this IWO CGE&Y Effort: <ul style="list-style-type: none"> • Capture results to LSRs that generated Reject messages prior to corrections made by the Test Generator • Match Reject conditions to Qwest IMA Edits per Qwest Response Summary • Demonstrate Qwest compliance of IMA system edits implementations During the retest effort and the analysis on the test cases that received rejects the Pseudo-CLEC received one Reject after the FOC. CGE&Y finding shows that the Rejects generated could have been prevented by the Pseudo-CLEC during the pre-ordering process. CGE&Y's analysis of the Rejects received also shows that Qwest implementation of up-front edits has improve the FOC process.	OSS Change

FUNCTIONALITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
156.	AZIWO2117 (formerly 1118) C L O S E D	The address search criteria in IMA-GUI does not provide adequate information for a DLEC to lock in an end user's address for a loop qualification.	A participating DLEC desires improvements to the address validation functionality and asserts that Qwest has a legal obligation to do so. Qwest disagrees. CGE&Y plans to place this on the agenda for the weekly IWO meeting.	OSS Change
157.	AZIWO2118 C L O S E D	In the Loss and Completion Report received, we observed inconsistencies within some of the records. PONs are missing for 488 order-TN's.	During the retest effort, CGE&Y re-submitted 171 orders to observe the occurrence of missing PONs, which is the subject of this IWO. CGE&Y analyzed the Loss and Completion Report for the retest period and found no missing PONs for any order. Since no further occurrence of this issue was observed, CGE&Y was satisfied that the subject of the IWO has been addressed.	OSS Change
158.	AZIWO2120 C L O S E D	There were a number of discrepancies between the end user Call Detail Log and the DUF. The discrepancies also appeared in the DUF entries to the paper bills.	Qwest provided answers to the questions submitted in this IWO and the IWO attachment. The accounts in question have been revalidated by CGE&Y. The Friendly Call Detail Log was compared to the DUF and the DUF to the invoice. The expected records were found on each source and target document.	OSS Change
159.	AZIWO2123 W I T H D R A W N	The above table indicates that among Dispatched orders which were delayed for non-facility reasons, commercial CLECs experienced significantly ($r0<.05$) and substantially ($d>.143$) longer delays than did Qwest Retail orders. The delays were about 33% longer for CLECs than for retail, or about one day longer.	Withdrawn because of the low number of sample sizes.	N/A
160.	AZIWO2124 W I T H D R A W N	The above table indicates that for Unbundled Analog Loops, Qwest failed to complete coordinated cutovers on time in accordance with the benchmark of 90%. Sufficient commercial volume exists to evaluate compliance after Qwest improvements, so further pseudo-CLEC testing seems unnecessary for this measure.	Withdrawn because the disparity is only with the CLEC Aggregate, which is outside the scope of the 271 test.	N/A

FUNCTIONALITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
161.	AZIWO2125 C L O S E D	A significantly ($r0<.05$) and substantially ($d > .0709$) lower percentage of P-CLEC repair appointments were met than comparative retail repair appointments. This disparity was found for all UNE-P disaggregations, regardless of whether dispatched or whether within or outside MSAs.	<p>The data and analysis show that Qwest is providing parity service to CLECs. The Qwest retail comparative data include RES and BUS product types. RES, BUS and UNE-P follow the same repair process. If CLEC performance is viewed in its entirety, it is clear that Qwest is providing parity performance, as evidenced by the Arizona published results.</p> <p>Although based on a single Repair Appointment, the Pseudo-CLEC results indicate that the disparity condition described in the IWO still exists for dispatched UNE-P repair appointments.</p>	Metrics
162.	AZIWO2126 C L O S E D	Commercial CLEC data indicates that Qwest is not compliant with agreed upon benchmarks for providing FOCs on time whenever manual processing is involved for LSRs received via EDI or via fax.	<p>Subsequent to these process improvements, Qwest has met all measures associated with manually handled LNP LSRs, for both regional and AZ aggregate CLEC results, with the exception of one AZ aggregate CLEC EDI electronic/manual miss in June. Additional system tools that were provided in June have allowed Qwest to stabilize all of these measures. Based on the April/May process improvements, Qwest has timely provided over 93 percent of all FOCs for AZ aggregate CLEC EDI electronic/manual LNP LSRs, even with the anomaly in June. Qwest believes it is compliant with agreed upon benchmarks for providing FOCs on time when manual processing is involved for all LSRs.</p> <p>CGE&Y agrees with Qwest's assertion that for LNP LSRs in AZ, the benchmark for providing FOCs on time whenever manual processing is involved has been met for the July to October 2001 timeframe.</p>	Procedures

FUNCTIONALITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
163.	AZIWO2127 C L O S E D	<p>Access Records Not Sent on DUF: CGE&Y conducted a controlled supplemental test of the accuracy of Daily Usage Files (DUF) records to insure no issues remained in Arizona considering the multiple system updates by Qwest that may affect the generation of daily DUF records. These updates occurred from September 2001 through December 2001.</p> <p>In Qwest's response to DR 264, Qwest stated that 92 DUF records had not been sent to the Pseudo – CLEC due to the situation of a service order converting an account to UNE on a Friday concurrent with the receipt of access records that are less than five days old. Qwest also stated that a fix was implemented for this problem on February 7, 2002.</p> <p>Please provide the activities that led to the identification and resolution of this problem.</p>	<p>CGE&Y conducted a retest of this IWO from March 13-27, 2002. This retest included placing calls of various types that would produce DUF records from test accounts during the migration of these accounts from Retail to UNE-P. These calls types included InterLATA, IntraLATA toll, 900/976 Calls, 8xx (WATS), Local Directory Assistance, Local Directory Assistance Connect, Toll Directory Assistance, Usage sensitive CLASS features, Terminating InterLATA, Terminating IntraLATA toll, Local Measured Service, Verify InterLATA Carrier, and Verify IntraLATA Carrier.</p> <p>Through March 27, 2002, CGE&Y received 284 ADUF records of 319 expected records. These calls are also included in the ADUF records not received on IWO2129. This IWO is closed and will be tracked by IWO2129.</p>	Procedure
164.	AZIWO2128 C L O S E D	<p>WATS Call Records Dropped: CGE&Y conducted a controlled supplemental test of the accuracy of Daily Usage Files (DUF) records to insure no issues remained in Arizona considering the multiple system updates by Qwest that may affect the generation of daily DUF records. These updates occurred from September 2001 through December 2001.</p> <p>In Qwest's response to DR 264, Qwest stated that 41 DUF records for WATS access calls had not been sent to the Pseudo CLEC because the call records were dropped in error. Qwest reported that a fix was to be implemented for this problem on February 18, 2002.</p> <p>Please provide the activities that led to the identification and resolution of this problem.</p>	<p>CGE&Y conducted a retest of this IWO from March 13-27, 2002. This retest included placing calls of various types that would produce DUF records from test accounts during the migration of these accounts from Retail to UNE-P or Resale. These calls types included InterLATA, IntraLATA toll, 900/976 Calls, 8xx (WATS), Local Directory Assistance, Local Directory Assistance Connect, Toll Directory Assistance, Usage sensitive CLASS features, Terminating InterLATA, Terminating IntraLATA toll, Local Measured Service, Verify InterLATA Carrier, and Verify IntraLATA Carrier</p> <p>During the retest 31 calls were placed from the 7 UNE-P accounts to 8XX numbers. An ADUF record was expected and received by March 26, 2002 for all of these calls.</p>	Procedure

FUNCTIONALITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
165.	AZIWO2129 C L O S E D	<p>Insufficient DUF Records Received:</p> <p>CGE&Y conducted a controlled supplemental test of the accuracy of Daily Usage Files (DUF) records to insure no issues remained in Arizona considering the multiple system updates by Qwest that may affect the generation of daily DUF records. These updates occurred from September 2001 through December 2001.</p> <p>As of 2-13-02 CGE&Y received 51% (136 of 267) of expected ODUF records and 19% (64 of 339) of expected ADUF records. CGE&Y believes this is an insufficient number of records returned after 8 business days of DUF reporting.</p>	<p>For the test calls, CGE&Y understands it received all ADUF records for which Qwest had received an access record. However, to insure the revenue due to the CLEC can be collected, the CLEC has the right to expect that all carriers who handle traffic from and to their end users will report call details accurately and will not mischaracterize the call type. Should a CLEC identify missing DUF records, Qwest has a procedure to assist the CLEC with root cause analysis and provide data for the CLEC to take whatever action they deem to be necessary. In addition, Qwest's business procedures document, "Billing-Daily Usage Files (DUF) V6.0" at url http://www.qwest.com/wholesale/clecs/duf.html, directs CLECs to contact the Billing SDC for usage disputes.</p> <p>Regarding the expected ADUF record not received for the (1) terminating direct dialed IntraLATA call, CGE&Y has reviewed the AMA record provided and recognizes this as a record error compared to CGE&Y's call log that, with one occurrence, is within tolerable limits.</p> <p>This IWO is closed.</p>	Procedure
166.	AZIWO2130 C L O S E D	<p>980 orders start with N or C /RSOR adhoc data</p> <p>Among the 980 orders whose order numbers start with 'N' or 'C' present in Qwest's RSOR adhoc data and for which LSR submission date and FOC date were available in the Pseudo-CLEC data, the Due Date in Qwest's RSOR adhoc file (which is used in calculating the OP-3 and OP-6 measures) differed from the due date on the first FOC received by the Pseudo-CLEC in 117 of the orders.</p>	<p>CGE&Y has verified that the cause of the discrepancy between the commitment date received by the Pseudo-CLEC via the FOC and the commitment date reflected in the RSOR database from which the OP-3, OP-6 and PO-9 measures are calculated was due to manual input errors on LSRs that failed to flow through. During the time frame covered by the original phase of the functionality test, the due date reflected on the FOC was automatically populated from the CRM database which used the desired due date from the LSR. However, it is the responsibility of the service representative to overwrite the due date field contained within the FOC to the due date that corresponds to the appropriate due date based on the</p>	Procedure

FUNCTIONALITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
			<p>service interval guide (SIG) when they differ. Qwest acknowledged in its response to this IWO and in interviews conducted with CGE&Y that for the majority of instances listed in this IWO Qwest failed to perform this function. However, the service order was input with the proper due date as per the SIG resulting in that date being used to calculate measure results. It is Qwest's opinion that its published performance measure results accurately reflect Qwest's performance in meeting installation due dates. However, from the Pseudo CLEC's perspective these manual input errors resulted in the overstatement of the number of installation commitments met and could severely impact the CLEC's relation to its end-user customer.</p> <p>The PID does not specify whether the appropriate due date to be used in measure calculations should be the due date contained within the FOC or that which is included in the original service order (based on the SIG), therefore CGE&Y cannot conclude that results published in Qwest's monthly results are non-compliant with the PID. CGE&Y does provide results for OP-3, OP-6 and PO-9 within the FTRC report based on the FOC due date for informational purposes for parties to determine the impact of this issue from the CLEC's perspective. CGE&Y's main concern is to ensure that the FOC and the service order reflect the same due date.</p> <p>Qwest has implemented several quality control mechanisms to ensure the due date transmitted via the FOC is identical to that which is entered into the SOP. On a monthly basis, Qwest's quality review team compares 10% of all due dates. In addition, 100% of all due dates input are reviewed for a one day period each week. Qwest has also implemented a due date GUI which includes a database containing due dates based on the SIG. Service Representatives are personally coached</p>	

FUNCTIONALITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
			<p>when input errors are discovered.</p> <p>Although not all of the above quality control procedures were in place during the retest period, CGE&Y observed significant improvement in the reduction of due date discrepancies. Increased flow through rates would also serve to reduce the opportunity for this type of manual input error.</p>	
167.	AZIWO2131 C L O S E D	<p>In examining Pseudo-CLEC data available for the OP-5 measurement, CGE&Y found that in 7 cases, Pseudo-CLEC data indicated that a trouble occurred within 30 days of installation, whereas Qwest adhoc data for the same 7 troubles indicate they did not occur within 30 days of installation. Why were the following 7 troubles not indicated as occurring within 30 days of installation in the MTAS data?</p> <p>In addition to the above troubles, WFAC indicated that the trouble received on 6/20/01 for circuit 19.LXFU.047700..MS was within 30 days of installation. However, Pseudo-CLEC data indicates that the most recent installation for this circuit was on 5/3/01, which is not within 30 days. Qwest RSOR data also indicates that this circuit was installed on 5/3/01. Both Pseudo-CLEC and RSOR data indicate that this circuit was disconnected on 6/20/01. Disconnects are not included in OP-5. Why does Qwest WFAC data indicate that this trouble was within 30 days of installation when Pseudo-CLEC and Qwest's own provisioning RSOR data indicates it was not?</p>	<p>Qwest does not report Pseudo-CLEC orders and tickets in OP-5. Qwest researched the Pseudo-CLEC orders provided by Cap Gemini in order to validate that the individual records would have been included in OP-5, if the records had been for an actual CLEC. Qwest did provide the data in the RSOR adhoc data. In the first section (chart) identifying the 7 troubles, the adhoc records for six contained, in the I (Installation Related Trouble) field, a value of "1". A value of "1" indicates that the repair ticket was an installation related trouble. Qwest and CGE&Y agree on six of the seven troubles identified.</p> <p>In one case (TN xxx/xxx/xxxx), the "I" contained a value of zero ("0") indicating this ticket was not an installation related trouble. Our research indicates that the LSR, on the original installation, did not specify a long distance provider. The reported problem was that the CLEC could not call information. Information is considered a long distance call. Since the original order did not have a PIC identified, Qwest could not repair the problem for a service the CLEC did not order. The CLEC contact advised Qwest to close the ticket stating they would handle the problem. This record was correctly categorized and would not be counted in OP-5.</p> <p>For the second section regarding the one WFA trouble ticket for which CGE&Y states Qwest included in OP-5, Qwest looked at the WFAC ticket in the adhoc data. This ticket had a value of one ("1") in the CLEC Caused</p>	Procedure

FUNCTIONALITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
			<p>Miss (CLEC_CT) field. Per page 21-21 of the Qwest Technical documentation, for a ticket to be included in the summaries for the OP-5 measure, the ticket must have a value in the CLEC_CT field of zero ("0"). Therefore, this ticket was properly not eligible for inclusion in the OP-5 summary counts.</p> <p>Qwest concludes that each record was correctly reported.</p> <p>CGE&Y agrees with Qwest's assertion that for 6 of the 7 TNs, MTAS correctly indicated that the trouble occurred within 30 days of installation. CGE&Y also agrees with Qwest's contention that TN xxx/xxx/xxxx would not be eligible for OP-5. CGE&Y's further analysis indicates the WFAC ticket was also properly excluded from the OP-5 calculation. Therefore, CGE&Y finds that Qwest's adhoc data for calculating the percentage of new installations experiencing troubles within the first 30 days is accurately reflecting performance observed by the Pseudo-CLEC.</p>	
168.	A Z I W O 2 1 3 2	In AZIWO2130, CGE&Y presented 111 orders for which the due date recorded in Qwest's adhoc RSOR data did not match the due date provided to the Pseudo-CLEC on the original FOC. Qwest responded that for the majority of orders identified, the due date was entered incorrectly due to manual errors. Based on this response, CGE&Y recalculated the OP-3 PID measures, replacing the RSOR due date (SODD) with the due date provided on the FOC to the Pseudo-CLEC for the 111 orders identified. CGE&Y's recalculation only considered test data from the original phase of the Functionality Test. The results of the recalculation revealed several disparities not previously identified in §2.5 of the Final Functionality Report. These disparities were for dispatched UNE-P, and non-dispatched business,	<p>The PID does not specify whether the appropriate due date for measurement calculations is the due date transmitted via the FOC or the due date contained on the service order, therefore, CGE&Y cannot conclude that results published in Qwest's monthly results are not compliant with the PID. However, CGE&Y does recognize that the transmission of an incorrect due date can place CLECs at a disadvantage and could severely impact the CLEC's relation with its end-user customer. CGE&Y's main concern is to ensure that the FOC and the service order reflect the same due date.</p> <p>In addition to the random 50% analysis described by Qwest in its response, CGE&Y has verified that Qwest has implemented several quality control mechanisms to ensure the due date</p>	Procedure

FUNCTIONALITY TEST

	IWO #	Incident Work Order	Qwest's Response	Results
		centrex, PBX, and UNE-P. The results of the OP-3 PID calculations for these products are presented below for both the RSOR due date (SODD) and the Pseudo-CLEC captured due date (FOC DD).	<p>transmitted via the FOC is identical to that which is entered into the SOP. On a monthly basis, Qwest's quality review team compares 10% of all due dates. In addition, 100% of all due dates are reviewed for a one day period each week. Qwest has also implemented a due date GUI which includes a database containing due dates based on the Service Interval Guide. Service Representatives are personally coached when input errors are discovered.</p> <p>Although not all of the quality control procedures described above were in place during the retest period, CGE&Y observed significant improvement in the reduction of due date discrepancies. Increased flow through rates would also serve to reduce the opportunity for this type of manual input error. The retest results seen by CGE&Y support Qwest's claim of greater than 97% agreement between the due provided in the FOC and that contained on the service order. CGE&Y finds that Qwest is reporting accurate results for OP-3 when the due date on the service order matches the due date provided on the FOC. Therefore, CGE&Y closes this IWO and recommends the parties review future commercial performance results to determine if Qwest is providing non-discriminatory service in meeting due dates.</p>	
169.	AZIWO3008 C L O S E D	Order Script requested convert with straight line listing, and additional listing. Order was issued with this information as well as the same billing address as was existing.	Qwest identified four inherent issues during analysis of IWO 3008-1 and recognizes one of them as a system problem.	OSS Change

RETAIL PARITY EVALUATION

	IWO #	Incident Work Order	Qwest's Response	Results
1.	AZIWO1019-1 C L	Trouble tickets successfully entered via IMA-GUI are not created.	Message passed to user via IMA-GUI indicates the request was forwarded to MEDIACC, not that the	Documentation Improvement

RETAIL PARITY EVALUATION				
	IWO #	Incident Work Order	Qwest's Response	Results
	O S E D		request successfully created a trouble ticket. In the examples the tickets had failed for various reasons, therefore the requested ticket did not exist. The implementation of CEMR, and its more specific responses should alleviate the confusion. In the interim, Qwest documentation was revised for further clarification.	
2.	AZIWO1022 C L O S E D	Error received on USOC 'RBE1X' (Restricted – do not remove.)	Qwest ISC failed to follow the process to obtain a valid USOC list; ISC failed to follow the process to correct an LSR containing non-resale USOCs	Updated Frequently Asked Questions on Website; Training
3.	AZIWO1023 C L O S E D	Documentation indicated that the End User Form DQTY field should auto-populate based on disconnect segments. All attempts to process a disconnect LSR without manual entry of a DQTY quantity resulted in error message.	The DQTY form should not auto-populate, and is required on disconnects.	Documentation Improvement
4.	AZIWO1024 C L O S E D	Zip code entries on M&R Open New Trouble Report transactions return an error message indicating that the zip code must consist of five digits.	Trouble could not be replicated. Qwest suggested that the user may have inadvertently and incorrectly entered a space or other invalid character in the field.	N/A
5.	AZIWO1025 W I T H D R A W N	Unable to expedite due date for staging a test account.	IWO withdrawn 01/12/01.	N/A
6.	AZIWO1026 C L O S E	M&R IMA-GUI Open Non-Design Trouble Report check-boxes for "Return Trouble Report Status" selections allow both "e-mail" and "neither" simultaneously.	10/27/00 still under investigation by Qwest. IMA-GUI M&R replaced by CEMR.	N/A

RETAIL PARITY EVALUATION				
	IWO #	Incident Work Order	Qwest's Response	Results
	D			
7.	AZIWO1027 C L O S E D	IMA-GUI interface "errors" occurred throughout resale-side testing with no equivalent retail-side OSS errors.	The errors occurred on the resale side and not on the retail side because the resale transactions require translation on the retail side, while the retail transactions do not.	N/A
8.	AZIWO1028 C L O S E D	Pseudo-CLEC received contradictory / confusing verbal and written responses from the Qwest ISC following the cancellation of a disconnect LSR.	The original LSR had a DDD of 10/16/00. The Supp-to-Cancel was not issued until 10/17/00 – after the disconnect had already been completed. The ISC procedures to modify completed orders was not followed.	Training Opportunity
9.	AZIWO1029 C L O S E D	IMA-GUI auto-population of CLEC contact FAX number from CLEC Profile data results in an error when auto-populated to the Open Trouble IMA-GUI screen.	The IMA System Administration Guide, Section 4, Modifying Your Personal Profile example will be modified to include hyphens in the locations immediately prior to and following the NXX.	Documentation Improvement
10.	AZIWO1031 C L O S E D	An "OSS Gateway: No Data Returned" error was received when attempting to process a multi-line PBX service new connect via IMA-GUI.	Qwest believes an incorrect class of service was used. CGE&Y verified with correct class of service.	N/A
11.	AZIWO1110 C L O S E D	Pre-Order response times are consistently longer for CLECs than for Qwest.	The Retail Parity re-evaluation eliminated the http timing delays and showed that the resale and retail experiences were substantially similar.	N/A
12.	AZIWO1111 C L O S E D	The numbers of fields and steps required to complete an order are greater for CLECs using IMA-GUI versus Qwest.	The Retail Parity re-evaluation determined that only 15% of the fields required for POTS were manual entry for CLECs.	N/A
13.	AZIWO1112 C	Vanity TN reservation functionality is available to the	During the Retail Evaluation re-evaluation, CGE&Y determined	Functionality Improvement

RETAIL PARITY EVALUATION				
	IWO #	Incident Work Order	Qwest's Response	Results
	L O S E D	Retail representative; no similar capability exists in the IMA-GUI system for the CLEC representative.	through observation of the test case performance that both retail and resale representatives were accessing the same Telephone & Address GUI system to obtain the vanity TNs. At this time CGE&Y believes the resale representatives have substantially the same ability to obtain and reserve vanity TNs as the retail representatives.	
14.	ASIWO2001 C L O S E D	Designating Blocking attributes via the Resale Form result in SAVE error.	IMA User Guide documentation will be clarified.	Documentation Improvement
15.	ASIWO2002 C L O S E D	IMA-GUI intermittently fails to auto-populate LSR From Admin Section AGAUTH field even though the field was correctly populated during the Review CSR pre-order transaction.	Correction included in IMA 6.0 release scheduled 12/2000	Process Improvement
16.	ASIWO2003 C L O S E D	A successful IMA-GUI CSR Validation query response displays the originally input CUSTOMER NAME entry as the CSR's NAME data entry even when the actual CSR does not have such a name.	This is working correctly. Bringing the NAME field forward onto the CSR response window allows a service representative to keep track of the way in which the customer has referred to him/herself in the customer contact while preserving the proper and exact entries of the listed and billed names on the account.	N/A
17.	ASIWO2004 C L O S E D	IMA-GUI consistently returned "No Telephone Numbers available for this address" over 5 repeated TN Availability attempts encompassing a 19 minute sequential period.	A user can only reserve up to 9 TNs for any given address at a time. Because only 2 TNs were returned on the initial query Qwest concludes that there were already 7 TNs reserved for the address. Qwest will update the User Guide documentation to provide further clarification for the user.	Documentation Improvement
18.	ASIWO2008 C L O S	TNs reserved during IMA-GUI Pre-Order TN Availability transaction returned a "No Telephone Numbers have been reserved" message when TN LIST	Qwest believes that the script performer did not actually select the TNs from the originally returned TN list. If TNs are not selected from the TN Availability list within 30	N/A

RETAIL PARITY EVALUATION				
	IWO #	Incident Work Order	Qwest's Response	Results
	E D	was selected on the Resale Form.	minutes they are returned to the pool.	
19.	AZIWO2009 C L O S E D	An "RGG1" USOC selected during LSR processing returned an error message.	The USOC was invalid. The USOC submitted was "RGG1+." The user is expected to replace the "+" with the desired value obtained in pre-order. Documentation has been clarified.	Document Improvement
20.	AZIWO2010 C L O S E D	Received an Error Message "No Telephone Numbers available for this address in response to a TN Availability query.	The PAV table queried by IMA caused the problem. The table, which contains the USOC, reseller, and switch information, had not been properly updated. Normally, a nightly CRON process updates the PAV table. Qwest has rectified this problem.	Process Improvement
21.	AZIWO2011 C L O S E D	A disconnect LSR with a due date of 10/17/00 was completed no later than 9/29/00.	A Qwest service order was issued manually with a due date of 9/26/00.	Training Opportunity
22.	AZIWO2012 C L O S E D	The IMA-GUI LSR Admin screen DDD field could not be accessed to be overtyped when attempting to perform a supplement to modify the Desired Due Date of an earlier submitted LSR.	The original LSR contained a dispatch appointment, therefore the DDD could not be changed. The user must select a new appointment, then issue a supplemental order using the newly reserved dispatch appointment.	Documentation Improvement
23.	AZIWO3001 IWO200-001 C L O S E D	5 accounts scheduled for M&R scripts were not provisioned with TNs	Account staging issues – Not IWO appropriate.	N/A
24.	AZIWO3005 IWO200-005 C L O S E D	Retail side "circuit ID" provided on the script was a billing number, and could not be used for performing M&R transactions.	Account staging issues – Not IWO appropriate	N/A

RETAIL PARITY EVALUATION

	IWO #	Incident Work Order	Qwest's Response	Results

CAPACITY TEST

	IWO #	Incident Work Order	Qwest's Response	Results
1.	AZIWO1128 W I T H D R A W N	Qwest truncated leading zeros in the Functional Acknowledgement (FA) field (AK102) in Release 7.0. Therefore they could not match their inbound and their outbound transactions.	Qwest stated that Qwest's implementation of the FA field is consistent with X.12 standards.	N/A
2.	AZIWO1143 C L O S E D	Orders that were expected to receive a FOC did not receive one.	Qwest confirmed that 77 LSRs were valid but did not flow-through due to an intermittent read error by Fetch-N Stuff on some transactions returned from the downstream systems. Qwest made a configuration change in Fetch-N Stuff to enable Fetch-N Stuff to read all transactions. This will be evaluated as part of the Functionality Retest.	System Improvement
3.	AZIWO1144 C L O S E D	7 LSRs are missing (LSR did not FOC or error)	Qwest confirmed that the seven LSRs did not receive a FOC but encountered an error in the BPL process. Qwest made system enhancements to correct this error and forwarded a copy of the code change to CGE&Y for verification	System Improvement
4.	AZIWO1193 C L O S E D	System support personnel did not receive system alarms that were generated due to the Code Red Virus. If Qwest had performed regular disaster recovery tests this problem might have been detected.	Qwest implemented "Net Tool" to ensure that this type of failure does not reoccur. NetTool initially sends a page to the Mobile Village paging engine as used today. If this initial paging attempt fails, NetTool resends the page via the Arch paging engine which is outside the Qwest firewall. If for any reason it is unable to send the page through either of the paging engines, NetTool issues an email to notify Qwest personnel that paging is down. Qwest personnel then manually monitor the common paging logs until notified that paging is again fully operational.	System Improvement

CAPACITY TEST				
	IWO #	Incident Work Order	Qwest's Response	Results
5.	AZIWO1194 C L O S E D	There is no evidence provided that Qwest monitors call center response times for CLEC support functions in order to determine whether adequate staffing exists to handle calls in a timely fashion and handle CLEC information requirements.	The Load and Resource Manager (LRM) in each Qwest ISC monitors Automatic Call Distribution (ACD) data hourly. The ACD provides metrics on Average Hold Time, Average Length of Calls, and Anticipated Call Volumes. Qwest provided. Qwest forwarded a copy of the Qwest Interconnect and Integrated Wholesale Service Center Process, which details the call center procedures. Qwest also provided samples of the ACD call logs.	N/A
6.	AZIWO2119 C L O S E D	IRTM EDI results for the Stress Test were significantly different from the results generated using the HPC provided test data. The Stress Test generated over 500 Pre-Order Transactions with response times greater than 200 seconds. IRTM has none as responses greater than 200 seconds time out in IRTM and are therefore excluded from the performance measurement calculation.	IRTM excludes responses greater than 200 seconds resulting in the discrepancy in EDI response times. The long response times were due to delays caused by the extremely high volumes generated during the Stress Test. These volumes will not occur in the production environment given Qwest's current capacity planning and scalability procedures unless a CLEC experiences a failure on its EDI components.	N/A
7.	AZIWO3009 C L O S E D	Qwest IA issued duplicate file names causing new files to overwrite old files.	Qwest stated the the duplicate file names were created because the UNIX Operating System, not the Qwest IA had reached a limit due to the nature of the Capacity Test.	N/A

RELATIONSHIP MANAGEMENT EVALUATION				
	IWO #	Incident Work Order	Qwest's Response	Results
1.	AZIWO1044 C L O S E D	CGE&Y would like to request that Qwest make available a testbed for use by CLECs that desire to conduct business via EDI.	Qwest has developed a Stand-Alone Testing Environment (SATE) to take Pre Order and Order requests, pass them to the stand-alone database, and return responses to the SATE user. The SATE was implemented on 08/01/01	Procedure
2.	AZIWO1064	Discrepancies and inconsistencies	Qwest agrees with the findings	Documentation

RELATIONSHIP MANAGEMENT EVALUATION				
	IWO #	Incident Work Order	Qwest's Response	Results
	C L O S E D	in the CLEC account establishment process published on Qwest's website.	outlined in IWO 2060. Qwest Wholesale Marketing Communications will update the "Getting Started" URL http://www.qwest.com/wholesale/clecs/index.html section of the Wholesale Markets Web page to arrange the section into a more easy to understand format.	Improvement
3.	3. AZIWO1065 C L O S E D	Inconsistencies in published process for CLECs to request new services (Bona Fide Request process).	CGE&Y has identified confusing language in the IRRG regarding the processes and applications co-providers should use to request new unbundled network elements, combinations of unbundled network elements, or switch features. Outlined in this response are revisions to the Qwest IRRG, now referred to as the Product Catalogue or PCAT. Qwest believes these changes should minimize confusion regarding various Service Request options available to Wholesale customers and should answer the questions raised by this IWO.	Documentation Improvement
4.	4. AZIWO1066 C L O S E D	Qwest's introduction to IMA class needs to be improved to include a hands-on training environment where users can actually use the system. All ordering scenarios need to be included in this functionality.	Qwest agrees that the IMA class should include a hands-on training environment for users. Qwest is releasing a hands-on IMA training class on February 21, 2001. This class will provide the students with the opportunity to actually use IMA in a classroom setting. Each ordering scenario will be included in the appropriate course by product.	Training Opportunity
5.	5. AZIWO1067 C L O S E D	Qwest's CLEC training program needs to be expanded to include more classes. Specifically, classes dealing with individual or families of products, and classes regarding Qwest business processes are most needed.	In the year 2000, Qwest expanded its CLEC training schedule for 1 st Quarter 2001; instructor-led training classes and Web-based training classes, both for products and IMA, were added. Thirty-four instructor-led training classes were added.	Training Opportunity
6.	6. AZIWO1068 W I T H D R	Qwest's current EDI testing process is inadequate. Qwest does not operate a fully functional, fully automated testing environment that mimics its production environment.	IWO withdrawn. Duplicated an earlier IWO.	N/A

RELATIONSHIP MANAGEMENT EVALUATION				
	IWO #	Incident Work Order	Qwest's Response	Results
	A W N			
7.	AZIWO1070 C L O S E D	The monthly service performance reporting that Qwest provides to the CLECs is inadequate and inaccurate.	Qwest states that it has voluntarily changed the reporting format to match the format Qwest uses in its workshops. These newly formatted CLEC specific reports contain December 2000 data and were distributed to the CLEC account teams on 2/8/01 and 2/9/01.	Documentation Improvement
8.	AZIWO1075 C L O S E D	The current CICMP process is not a true collaborative effort for making changes to the CLEC-specific pre-order, order, and repair interfaces.	<p>Qwest disagrees with CGE&Y's belief as to the degree to which the CICMP process is not collaborative. It is Qwest's position that it is appropriate for CLECs to vote on CLEC initiated changes but is not appropriate for CLECs to vote on all changes.</p> <p>In the Summer of 2001, Qwest initiated a comprehensive redesign of its process, now re-named the Change Management Process, in collaboration with the CLEC community. This effort will address the issue of collaborative evaluation and prioritization of change requests.</p>	Process Improvement
9.	AZIWO1076 C L O S E D	The Change Request (CR) process used in the CICMP needs to be reviewed and redesigned in order for CRs to progress through the lifecycle in a much more timely fashion.	<p>The Qwest once a month CICMP meetings are in line with other ILECs such as SBC and Bell Atlantic (Verizon) which have both been approved by the FCC.</p> <p>In the Summer of 2001, Qwest initiated a comprehensive redesign of its process, now re-named the Change Management Process, in collaboration with the CLEC community. This effort will address the issue of the timeliness of change request reviews and prioritization.</p> <p>Qwest has made other changes outside the redesign effort that have already made the process more efficient.</p>	Process Improvement
10.	AZIWO1078 C	"Final" EDI design documents are only released to the CLECs three	Qwest's EDI release documentation notification procedures give the	Process Improvement

RELATIONSHIP MANAGEMENT EVALUATION				
	IWO #	Incident Work Order	Qwest's Response	Results
	L O S E D	weeks prior to a new EDI release. This issue has been repeatedly brought up at CICMP meetings by both the CLECs and third party EDI software vendors.	CLECs adequate time to prepare for an EDI release. Qwest's EDI release documentation notification timelines meet or exceed industry expectations, demonstrated by comparing SBC timelines to Qwest timelines. In the Summer of 2001, Qwest initiated a comprehensive redesign of its process, now re-named the Change Management Process, in collaboration with the CLEC community. This effort will address the issue of the timeliness of EDI design documentation release.	
11.	AZIWO1086 C L O S E D	Various minor discrepancies were noted in reviewing the Resale and Interconnection Product Descriptions (PDs) available to CLECs on the Qwest Wholesale Web site.	In order to address the concerns raised, Qwest is implementing several changes to the means by which it shall review, and communicate information necessary for CLECs to conduct business with Qwest.	Documentation Improvement
12.	AZIWO1127 C L O S E D	There was no clearly identified process for communicating software changes that were outside of a scheduled IMA software release.	Qwest has researched the issue outlined in IWO 1127 and will update its IMA and FBDL EDI Implementation Guide documentation. Additionally, Qwest has taken internal steps to ensure the process is consistently followed.	Documentation Improvement
13.	AZIWO1131 C L O S E D	Qwest provided some CLEC documents that were not complete, or usable from the web page.	A user must be familiar with their own browser settings to employ the type of printing they require and know that they have the ability to set their printing parameters.	N/A
14.	AZIWO1135 C L O S E D	The section of the Qwest wholesale website containing instructions on business procedures for Interconnect (i.e. CLEC) customers contains a page called "Manual Interfaces." The intent of this IWO is to bring to Qwest's attention some inaccuracies contained within this document.	Updates will be made to the Qwest Wholesale Web site in August 2001, and again before the end of 2001 to address these issues.	Documentation Improvement
15.	AZIWO1138 C L	On the RPL form, ECCKT field, it appears that there may be a documentation issue since the	Qwest was able to replicate the error using the data provided and has found that for the account utilized in	OSS Change

RELATIONSHIP MANAGEMENT EVALUATION				
	IWO #	Incident Work Order	Qwest's Response	Results
	O S E D	Business Rules state "This field represents the USW Circuit Id. All components within the ID should be delimited by periods." The ECCKT that was returned on the CSR for this account was 602J670357 – a virtual circuit. The Business Rules do not indicate that this format of ECCKT is valid.	the P-CLEC test, the ECCKT was not placed in the ECCKT field (CSRR7a), the SBN (Summary Bill Number) for the loop was placed in this field. Qwest has created CR 20608 to address this issue. Qwest has targeted this fix for IMA Release 9.0, scheduled for December 8, 2001. The requested fix was accomplished on 8 December.	
16.	AZIWO1145 C L O S E D	Help Desk-related incidents were noted during the Fuctionality Test. These incidents relate to the inconsistent following of escalation procedures by Qwest help desk personnel.	Qwest records indicate that closure of the three trouble tickets (754013, 773927, 754609) was provided to the CLEC. A copy of the three tickets is included in a Confidential Attachment to this response. The notes in the escalation remarks sections and a check in the Completed box are used by Qwest to indicate closure of the ticket.	Training Opportunity
17.	AZIWO1146 C L O S E D	Help Desk-related incidents were noted during the Fuctionality Test. These incidents relate to possible training deficiencies within Qwest's Interconnect Service Centers.	Call Center personnel have not been introduced to post order notifications. A Call Center database ticket should be sent to an IMA SME to assist the CLEC. An MCC will be issued no later than 9/17/01 reminding Call Center personnel that IMA post order notifications are considered Customer Service Inquiry and Education Center (CSIE) work and should be forwarded via call center database ticket to the subject matter experts at the CSIE.	Training Opportunity
18.	AZIWO1147 C L O S E D	Help Desk-related incidents were noted during the Fuctionality Test. These incidents relate to Pseudo-CLEC difficulties contacting Qwest help desks.	CGE&Y is satisfied that these observations were brought to light as many other CLECs may have experienced the same type of service. Since there is no way to recreate this situation, the fact that it is documented, brought to Qwest's attention and discussed is adequate.	
19.	AZIWO1148 C L O S E D	Help Desk-related incident was noted during the Fuctionality Test. This incident relates to a weakness in Qwest documentation that is available to CLECs.	Qwest posted the new escalation information to the Qwest Wholesale website on 09/21/2001. Qwest provided notification to the CLECs on 09/21/2001 with subject line: "Updates to Product Catalog for Bona Fide Request and Special Request, Expedites and Escalations,	Documentation Improvement

RELATIONSHIP MANAGEMENT EVALUATION				
	IWO #	Incident Work Order	Qwest's Response	Results
			Proof of Agency and Letter of Agency."	
20.	AZIWO1149 C L O S E D	<p>The following incidents were noted during the provisioning and installation of customer lines during the Functionality Test. These incidents relate to:</p> <p>Possible training deficiencies within the Interconnect Service Centers</p> <p>Possible training deficiencies within the repair bureau</p> <p>Inappropriate contact between Qwest repair technicians and CLEC end-user customers.</p>	Qwest implemented training, processes, metrics, and a new CLEC Coordination Center	Training Opportunity
21.	AZIWO1170 C L O S E D	<p>This IWO is an observation follow-up to AZIWO1086, which has been closed. AZIWO1086 pointed out deficiencies in Qwest's online Product Catalogs.</p>	<p>All pertinent information from the Manual Interfaces PCAT has now been updated and relocated to appropriate locations on Qwest websites. Qwest has deleted the information on this web page and replaced it with links guiding CLECs to the relocated, pertinent information.</p>	Documentation Improvement
22.	AZIWO1171 W I T H D R A W N	<p>The P-CLEC uncovered the following issues regarding amendments to its Interconnection Agreement: === 1) The UNE-P amendment took four revisions, and three months to complete. 2) The amendment for LNP Managed cuts took over seven months, and one replacement copy to complete.</p>	<p>The subject of this IWO was also addressed in the following closed IWOs: AZIWO1130, AZIWO1132 and AZIWO1134.</p>	N/A
23.	AZIWO1172 C L O S E D	<p>The instructor, by his own admission, was largely unfamiliar with the subject matter and merely read from the course book for most of the class. The second half of the class was supposed to have been an explanation of how to order the product through IMA-GUI. Since the IMA "Hands-On" class was not a prerequisite for the UNE-P class, however, the IMA-GUI portion of the course amounted to little more than a brief IMA-GUI overview. CLEC feedback on other such</p>	<p>Qwest has implemented train-the-trainer programs and cross training its trainers in an effort to be able to provide more customer training on various topics. It is likely that one of our trainers was not an expert in a particular topic in their first class on that topic. Working knowledge of the IMA GUI or EDI is stated as a prerequisite for the UNE-P class.</p>	Training Opportunity

RELATIONSHIP MANAGEMENT EVALUATION				
	IWO #	Incident Work Order	Qwest's Response	Results
		courses has reiterated this observation.		
24.	AZIWO1173 C L O S E D	<p>The following observations were made during CGE&Y's attendance of Qwest's IMA-GUI Hands-On class conducted on 21 March 2001. === The instructors are not yet completely familiar with all of the courses they are required to teach, so they are often forced to consult with product subject matter experts in order to fully answer students' questions. === The majority of questions asked by participants, however, were related to business rules and Interconnection Service Center (ISC) processes and didn't necessarily have anything to do with the IMA-GUI system. Many other questions stemmed from some participants' lack of understanding of Local Service Ordering Guidelines (LSOG) fields and business rules, and likewise weren't related to IMA-GUI. It should have been made more clear to participants that the purpose of the class was the functionality of the IMA-GUI system and not a discussion of Qwest's order processing functions and business rules. === The training system created for this class was usable but contained some shortcomings. For example, since the system doesn't fully mirror the production environment, the student is not able to submit an order and receive a FOC. Likewise, most post-order functionality was not available to class participants. Finally, participants of the class experienced several system failures, most often when several students tried to submit the same transaction at the same time. This action resulted in their workstations locking up, and students were forced to completely shut down their browsers, log back into IMA, and get back to where they were. In some instances this</p>	<p>Qwest will define the requirements for expanding the current IMA Hands On training system to determine if IMA system responses can also be provided. The observation about workstations locking up is not a training issue as much as it is a system timing issue. Based upon this experience, the trainers know what to do to prevent the timing problem and take the necessary steps to keep it from occurring. Qwest is currently defining system, human resource and funding requirements for creating a "more robust" IMA training.</p> <p>Qwest opens its classes to questions from students. At times, students will ask questions concerning topics other than the discussion points in the training class. The IMA course description sheet published on the Qwest Wholesale website, course catalog, provides information on class topics: "This introductory course teaches the participant how to use Qwest's IMA Graphical User Interface (GUI) to order wholesale products and enter and view repair data. This class is interactive using software demonstration and hands-on practice to familiarize the participant with the IMA GUI system." (At the time, repair was included in IMA – it is now a separate course, CEMR.) The URL for this course description sheet is http://www.qwest.com/wholesale/training/ilt_desc_ima_handson.html</p>	Training Opportunity

RELATIONSHIP MANAGEMENT EVALUATION				
	IWO #	Incident Work Order	Qwest's Response	Results
		wasted quite a bit of class time.		
25.	AZIWO1174 C L O S E D	<p>The following observations were made by the Pseudo-CLEC (P-CLEC) during its EDI certification process for the Arizona 271. The Qwest Connectivity process did not include a clearly defined protocol or schedule for closing open CRs associated with scenarios after the completion of the EDI Connectivity process. Although Qwest has committed to resolving all open CRs associated with the P-CLEC's 271 testing effort in their next release of the EDI software, Release 7.0, there appears to be no defined schedule that identifies the specific timeframes in which co-providers could expect resolution of opened CRs. There was also no standard co-provider notification list that specified which co-providers would be notified of the specific CR fixes. It appears as if some of the CR fixes could be completed at any point after the EDI Connectivity process, and co-providers would not necessarily be made aware of the specific CRs that have been resolved. Release notes do not always indicate all CR fixes.</p>	<p>All CRs that impacted the ability of the P-CLEC to certify on the IMA-EDI interface for release 5.0 and release 6.0 have been resolved. All impacted EDI CLECs were notified about CRs that affected software or business processes via the IMA-EDI release notification process. As of Release 7.0, there are no open P-CLEC CRs in Arizona. Qwest maintains internal lists of EDI CLECs by product to use for notification purposes.</p> <p>Qwest is making a proposal to change its change management program to meet the needs of the industry and align Qwest with evolving industry directions. To this end, Qwest is working this issue in the regulatory workshops and the CMP Forum and has prepared a proposal for collaborative development of a change management program that will address the concerns raised in this and other observations. The details of the program will be collaboratively refined with the CLECs in the Qwest CMP forum. The schedule for the CMP Redesign effort is located on this website: http://www.qwest.com/wholesale/cmp/redesign.html in the section for Meeting Notice/Meeting Schedules. Qwest has identified and expects the program to contain the following elements, some of which address the issues raised in this observation.</p>	Procedure
26.	AZIWO1175 C L O S E D	<p>The Pseudo-CLEC closely followed the Qwest IMA 7.0 Connection Guide when upgrading the IMA-GUI from version 6.0 to 7.0. The Qwest documentation seemed to assume that the IMA-GUI was being installed on computers with no previous IMA-GUI installation. When attempting to install the 7.0 IMA-GUI on computers with 6.0 already installed, it was discovered that</p>	<p>Qwest is confused by the P-CLEC's description of updating the IMA-GUI from 6.0 to 7.0. The write-up seems to suggest that the P-CLEC was upgrading the IMA-GUI software from version 6.0 to 7.0 in its own system. That is not the case; the IMA-GUI software resides in Qwest systems. There is no action required by a CLEC to "upgrade" from the IMA GUI 6.0 to 7.0 because Qwest upgrades the versions internally on</p>	Procedure

RELATIONSHIP MANAGEMENT EVALUATION				
	IWO #	Incident Work Order	Qwest's Response	Results
		there were installation steps that were not included in the Connection Guide. In order to get consistent access to the Qwest IMA server, it was necessary to completely uninstall previous versions of Netscape 4.71 and Sun Microsystem's Java Developer's Kit 1.2.2 and then do a fresh installation of the software.	<p>the GUI from release to release. When a CLEC logs on to the IMA GUI, they are logged into the version that is being currently supported in production.</p> <p>The IWO states that the tester was using Netscape v4.71, although the Interconnect Guide, version 7.0, explicitly states in Chapter 2, Desktop Requirements, page 2-3, that versions 4.08 and 4.51 are supported. The IMA Connection Guide lists the approved versions of Netscape and Java. A CLEC may experience problems with the IMA GUI when they are not using the approved versions of Netscape and/or Java. If a CLEC encounter problems using a version of Netscape and/or Java other than those approved, the first recommendation Qwest would make would be for the CLEC to install the approved versions.</p>	
27.	AZIWO1176 C L O S E D	The following observation was made during CGE&Y's interview of Qwest's CLEC Account Management personnel. Qwest's CLEC Account Managers said that CLECs can begin many processes, including the interconnection negotiation process, before state certification is complete. While it is clearly stated on the Qwest wholesale website that a CLEC must be certified by the state commission before it can provide service, it is not stated that a CLEC can begin the account establishment process before state certification is complete.	<p>The CLEC checklist, as referenced in Qwest's 9/21/01 response summary, was posted to the Qwest Wholesale web site on 9/19/01. The updated information can be accessed on the Qwest Wholesale web site at these URLs:</p> <p>For Facilities Based CLECs - http://www.qwest.com/wholesale/clecs/clec_index.html</p> <p>For Reseller CLECs - http://www.qwest.com/wholesale/clecs/reseller_index.html</p> <p>The associated industry notification was sent on 10/4/01 with subject heading "Updated Information on Getting Started Questionnaire for CLECs and Resellers."</p>	Documentation Improvement
28.	AZIWO1177 C L O S E D	The following observation was made during CGE&Y's review of the Arizona SGAT found at the following web address: http://www.qwest.com/about/policy/sgats/#arizona == The section within the SGAT dealing with	Qwest has documented PIDs for Arizona and placed links to filed SGATs on the web page for CLEC access. The PIDs explain the performance measures and the filed SGATs can be obtained through the website.	Documentation Improvement

RELATIONSHIP MANAGEMENT EVALUATION				
	IWO #	Incident Work Order	Qwest's Response	Results
		service performance gives the general categories in which performance is measured and reported, but does not give any detailed information about the specific measures involved (i.e., what kinds of triggers are used within the databases to capture time and date related information).		
29.	AZIWO1178 C L O S E D	<p>The PCAT contains a list of Reject Reasons at the following URL: http://www.qwest.com/wholesale/clecs/orderprocess.html. The page does not explain if the list is complete, nor does it inform the CLEC what steps to take to rectify the reject.</p>	<p>Qwest has a new General Product Catalogue (PCAT). The first phase of PCAT was released on July 27th, 2001 (the URL is http://www.qwest.com/wholesale/clecs/ordering.html). The General Order and Provisioning sections of the PCATs outline a detailed list of possible reject reasons and informs the CLEC about what steps are necessary to rectify the reject. CLECs should go to the section identified under the heading "Editing Errors and Rejections" for the information cited in this IWO. Notice of changes to the Qwest web site was provided to CLECs in July of this year.</p>	Documentation Improvement
30.	AZIWO1179 C L O S E D	<p>The Service Interval Guide (SIG) does not give any indication of FOC intervals for orders issued through Mediated Access. Further, the SIG makes no mention of the ordering method assumed (i.e., manual ordering) when giving FOC intervals, therefore leaving it to the reader to infer it from the material presented.</p>	<p>On August 1st, 2001, Qwest modified the SIG to indicate that the "Firm Order Completion (FOC) interval is based on the assumption that the request is submitted electronically via IMA. An additional 24 hours is added to the interval if the request is submitted via IIS (Faxed).</p>	Documentation Improvement
31.	AZIWO1180 C L O S E D	<p>The PCAT located at http://www.qwest.com/wholesale/clecs/electronicaccess.html provides instructions for CLECs to follow to gain OSS access and gives connectivity options. The forms required are outlined and provided for the CLEC to submit to the account manager. Exception: Timelines are not listed for every connection method.</p>	<p>This difference was noted by Qwest and was corrected on 8/28/01. The Dedicated Access and Dial up methods did provide a timeframe for set up/installation, however, the timeframe for Digital Certificate was omitted. This information was added to the Electronic Access website on 8/28/01. Appropriate notification was sent via the CMP to the CLECs on 8/28/01.</p>	Documentation Improvement
32.	AZIWO1196	The <u>Resale</u> PCATs for Resale	RESALE Issues:	Documentation

RELATIONSHIP MANAGEMENT EVALUATION				
	IWO #	Incident Work Order	Qwest's Response	Results
	C L O S E D	<p>Voice Messaging Service and for Central Office - Automatic Call Distribution appear to be out of date. If the information contained on these pages is still current, then the "Reviewed On" dates should be updated. Also, these PCATs state that the products cannot be ordered through Mediated Access. If this is still true, then the manual ordering instructions should be updated to include the proper Qwest fax number where the various OBF forms can be sent.</p> <p>The following Interconnection URLs appear to be out of date:</p> <p>The PCAT for Dedicated Internet Access The PCAT for Domestic ATM The PCAT for Interim Number Portability The PCAT for Toll-Free Origination The PCAT for Electronic Directory Assistance The PCAT for DS1 The PCAT for DS3 The PCAT for Private Line</p>	<ol style="list-style-type: none"> 1. The Resale Voice Messaging Service information is out of date. Qwest is in the process of revising it and will have all Voice Messaging Products completely documented and posted to the web on or before December 14, 2001. 2. Automatic Call Distribution will be reviewed for accuracy and completeness, revised and posted to the web on or before November 20, 2001. <p>INTERCONNECTION Issues:</p> <ol style="list-style-type: none"> 1. Effective 10/30/01, Qwest has removed from the web site the following items that are not applicable to Interconnection or Resale: <ul style="list-style-type: none"> • Dedicated Internet Access • Domestic ATM • Toll-Free Origination • DS1 (Resale DS1 will remain) • DS3 (Resale DS3 will remain) • Private Line 2. The Qwest process for INP has not changed. However, the information for INP will be reviewed for accuracy and completeness by 11/9/01. Should the documentation require revision in content, it will be updated and published to the web no later than 11/16/01. The format will be revised at that time. 3. The PCAT for Electronic Directory Assistance will be reviewed, revised and published to the web no later than 11/9/01. 	Improvement

Appendix C – Call Detail Log

CALL DETAIL LOG

NAME: _____

DATE: _____

ADDRESS: _____

TEST LINE TELEPHONE NUMBER: ____ (____) _____

Test Number	Test Call Description	Date	Start Time of Call	End Time of Call	Comments
1	900/976 Blocking				
2	800 Number Dialing Capability				
3	Directory Assistance				
4	Long Distance Carrier Verification				Long Distance Carrier: _____
5	IntraLATA Long Distance Carrier				
6	Long Distance Call Completion				
7	Local Call Completion				
8	In-State InterLATA Long Distance Call Comp.				
9	In-State IntraLATA Long Distance Call Comp.				
10	One Plus Directory Assistance Call				

Please add any additional comments: _____

I certify the information completed above to be true and accurate. I further certify that I made the phone calls at the start and end times shown above.

Appendix D – Test Call Instructions

Phoenix Test Call Instructions**Test Call Instructions**

As a volunteer, please follow the instructions outlined below and complete the attached Call Detail Log to record these test calls. Return the top copy of the Call Detail Log in the Return Postage Paid Envelope within 24 hours of completing these test calls (retain the bottom copy of the original call Detail Log for your records).

Please perform these calls on the date indicated on the attached Call Detail Log.

If you have any problems or questions with these instructions, please contact Jason Stults at 1-800-227-4230 x3789 or Andrew Bennett at 1-800-227-4230 x2721 for clarification.

TEST CALL 1: Verify 900 blocking

Dial 1-900-656-2408 from the test line

Verify you hear the recorded blocking message such as: "At the customer's request you cannot dial that number from this line".

The call will be a failure if you are connected to the 900 number.

TEST CALL 2: Verify ability to dial 800 numbers.

Dial 1-800-227-4230 from the test line to connect to the Cap Gemini voice messaging system.

When you hear, "Thank you for calling Cap Gemini America" the test call is deemed successful, hang up and record in the Call Detail Log. If you do not hear "Thank you for calling Cap Gemini America", hang up and note the call was not successful in the comments section of the Call Detail Log.

TEST CALL 3: Verify Directory Assistance availability.

Dial 1411 from the test line.

Ask for the telephone number for the Local US Post Office in your city.

Verify that the Directory Assistance Operator was able to give the number; record the number given on the Call Detail Log. If the call was not successful, please note this in the comments section of the Call Detail Log.

TEST CALL 4: Verify Long Distance Carrier

Dial 1-700-555-4141 from the test line.

You will hear the name of the long distance carrier on the test line. Hang up and record the name of the long distance carrier in the comment section of the Call Detail Log. If you are not connected to a Long Distance carrier or if you are not assigned to a Long Distance company, make a note that you were not connected or assigned, as appropriate, on the Call Detail Log.

TEST CALL 5: Verify IntraLATA Long Distance Carrier

Dial 1+Area Code-555-4141 from the test line. (Area Code = Your Area Code)

You will hear the name of the IntraLATA long distance carrier on the test line. Hang up and record the name of the IntraLATA carrier in the comment section of the Call Detail Log. If you are not connected to a carrier, or if you are not assigned to a company, make a note that you were not connected or assigned, as appropriate, on the Call Detail Log.

TEST CALL 6: Long Distance Call Completion

Dial 469-330-1299, note the start time of the call, and listen to the message. Hang up and record the call duration on the Call Detail Log. If call did not go through, please note that in the comments section of the Call Detail Log.

TEST CALL 7: Local Call Completion

Dial 606-863-0127, note the start time of the call, and listen to the message. Hang up and record the call in the Call Detail Log. If call did not go through, please note that in the comments section of the Call Detail Log.

TEST CALL 8: In-State Interlata Long Distance Call Completion

Dial 520-535-7820, note the start time of the call, and listen to the message. Hang up and record the call duration on the Call Detail Log. If call did not go through, please note that in the comments section of the Call Detail Log.

TEST CALL 9: In-State Intralata Long Distance Call Completion

Dial 520-772-9034, note the start time of the call, and listen to the message. Hang up and record the call duration on the Call Detail Log. If call did not go through, please note that in the comments section of the Call Detail Log.

TEST CALL 10: Verify One Plus Directory Assistance availability.

Dial 1-303-555-1212 from the test line.

When the operator asks "for what city?" You will respond with "Aurora".

And when the Operator asks "for what listing?" You will respond with "Nova Southeastern University"

Verify that the Directory Assistance Operator was able to give the number; record the number given on the Call Detail Log and hang up. Note: If given the option to connect automatically dial the number, do not choose this option.

If the call was not successful, please note this in the comments section of the Call Detail Log.

Thank You for your participation in this effort!

Prescott Test Call Instructions**Test Call Instructions**

As a volunteer, please follow the instructions outlined below and complete the attached Call Detail Log to record these test calls. Return the top copy of the Call Detail Log in the Return Postage Paid Envelope within 24 hours of completing these test calls (retain the bottom copy of the original call Detail Log for your records).

Please perform these calls on the date indicated on the attached Call Detail Log.

If you have any problems or questions with these instructions, please contact Jason Stults at 1-800-227-4230 x3789 or Andrew Bennett at 1-800-227-4230 x2721 for clarification.

TEST CALL 1: Verify 900 blocking

Dial 1-900-656-2408 from the test line

Verify you hear the recorded blocking message such as: "At the customer's request you cannot dial that number from this line".

The call will be a failure if you are connected to the 900 number.

TEST CALL 2: Verify ability to dial 800 numbers.

Dial 1-800-227-4230 from the test line to connect to the Cap Gemini voice messaging system.

When you hear, "Thank you for calling Cap Gemini America" the test call is deemed successful, hang up and record in the Call Detail Log. If you do not hear "Thank you for calling Cap Gemini America", hang up and note the call was not successful in the comments section of the Call Detail Log.

TEST CALL 3: Verify Directory Assistance availability.

Dial 1411 from the test line.

Ask for the telephone number for the Local US Post Office in your city.

Verify that the Directory Assistance Operator was able to give the number; record the number given on the Call Detail Log. If the call was not successful, please note this in the comments section of the Call Detail Log.

TEST CALL 4: Verify Long Distance Carrier

Dial 1-700-555-4141 from the test line.

You will hear the name of the long distance carrier on the test line. Hang up and record the name of the long distance carrier in the comment section of the Call Detail Log. If you are not connected to a Long Distance carrier or if you are not assigned to a Long Distance company, make a note that you were not connected or assigned, as appropriate, on the Call Detail Log.

TEST CALL 5: Verify IntraLATA Long Distance Carrier

Dial 1+Area Code-555-4141 from the test line. (Area Code = Your Area Code)

You will hear the name of the IntraLATA long distance carrier on the test line. Hang up and record the name of the IntraLATA carrier in the comment section of the Call Detail Log. If you are not connected to a carrier, or if you are not assigned to a company, make a note that you were not connected or assigned, as appropriate, on the Call Detail Log.

TEST CALL 6: Long Distance Call Completion

Dial 469-330-1299, note the start time of the call, and listen to the message. Hang up and record the call duration on the Call Detail Log. If call did not go through, please note that in the comments section of the Call Detail Log.

TEST CALL 7: Local Call Completion

Dial 520-772-9034 note the start time of the call, and listen to the message. Hang up and record the call in the Call Detail Log. If call did not go through, please note that in the comments section of the Call Detail Log.

TEST CALL 8: In-State Interlata Long Distance Call Completion

Dial 602-863-0127, note the start time of the call, and listen to the message. Hang up and record the call duration on the Call Detail Log. If call did not go through, please note that in the comments section of the Call Detail Log.

TEST CALL 9: In-State Intralata Long Distance Call Completion

Dial 520-323-7820, note the start time of the call, and listen to the message. Hang up and record the call duration on the Call Detail Log. If call did not go through, please note that in the comments section of the Call Detail Log.

TEST CALL 10: Verify One Plus Directory Assistance availability.

Dial 1-303-555-1212 from the test line.

When the operator asks "for what city?" You will respond with "Aurora".

And when the Operator asks "for what listing?" You will respond with "Nova Southeastern University"

Verify that the Directory Assistance Operator was able to give the number; record the number given on the Call Detail Log and hang up. Note: If given the option to connect automatically dial the number, do not choose this option.

If the call was not successful, please note this in the comments section of the Call Detail Log.

Thank You for your participation in this effort!

Tuscon Test Call Instructions

Test Call Instructions

As a volunteer, please follow the instructions outlined below and complete the attached Call Detail Log to record these test calls. Return the top copy of the Call Detail Log in the Return Postage Paid Envelope within 24 hours of completing these test calls (retain the bottom copy of the original call Detail Log for your records).

Please perform these calls on the date indicated on the attached Call Detail Log.

If you have any problems or questions with these instructions, please contact Jason Stults at 1-800-227-4230 x3789 or Andrew Bennett at 1-800-227-4230 x2721 for clarification.

TEST CALL 1: Verify 900 blocking

Dial 1-900-656-2408 from the test line

Verify you hear the recorded blocking message such as: "At the customer's request you cannot dial that number from this line".

The call will be a failure if you are connected to the 900 number.

TEST CALL 2: Verify ability to dial 800 numbers.

Dial 1-800-227-4230 from the test line to connect to the Cap Gemini voice messaging system.

When you hear, "Thank you for calling Cap Gemini America" the test call is deemed successful, hang up and record in the Call Detail Log. If you do not hear "Thank you for calling Cap Gemini America", hang up and note the call was not successful in the comments section of the Call Detail Log.

TEST CALL 3: Verify Directory Assistance availability.

Dial 1411 from the test line.

Ask for the telephone number for the Local US Post Office in your city.

Verify that the Directory Assistance Operator was able to give the number; record the number given on the Call Detail Log. If the call was not successful, please note this in the comments section of the Call Detail Log.

TEST CALL 4: Verify Long Distance Carrier

Dial 1-700-555-4141 from the test line.

You will hear the name of the long distance carrier on the test line. Hang up and record the name of the long distance carrier in the comment section of the Call Detail Log. If you are not connected to a Long Distance carrier or if you are not assigned to a Long Distance company, make a note that you were not connected or assigned, as appropriate, on the Call Detail Log.

TEST CALL 5: Verify IntraLATA Long Distance Carrier

Dial 1+Area Code-555-4141 from the test line. (Area Code = Your Area Code)

You will hear the name of the IntraLATA long distance carrier on the test line. Hang up and record the name of the IntraLATA carrier in the comment section of the Call Detail Log. If you are not connected to a carrier, or if you are not assigned to a company, make a note that you were not connected or assigned, as appropriate, on the Call Detail Log.

TEST CALL 6: Long Distance Call Completion

Dial 469-330-1299, note the start time of the call, and listen to the message. Hang up and record the call duration on the Call Detail Log. If call did not go through, please note that in the comments section of the Call Detail Log.

TEST CALL 7: Local Call Completion

Dial 520-323-7820, note the start time of the call, and listen to the message. Hang up and record the call in the Call Detail Log. If call did not go through, please note that in the comments section of the Call Detail Log.

TEST CALL 8: In-State Interlata Long Distance Call Completion

Dial 602-863-0127, note the start time of the call, and listen to the message. Hang up and record the call duration on the Call Detail Log. If call did not go through, please note that in the comments section of the Call Detail Log.

TEST CALL 9 : **Not Applicable to this Test Packet** (please skip this call and leave blank on the Call Detail Log)

TEST CALL 10: Verify One Plus Directory Assistance availability.

Dial 1-303-555-1212 from the test line.

When the operator asks "for what city?" You will respond with "Aurora".

And when the Operator asks "for what listing?" You will respond with "Nova Southeastern University"

Verify that the Directory Assistance Operator was able to give the number; record the number given on the Call Detail Log and hang up. Note: If given the option to connect automatically dial the number, do not choose this option.

If the call was not successful, please note this in the comments section of the Call Detail Log.

Thank You for your participation in this effort!

Appendix E – Unplanned Trouble Log

Name: _____ Address: _____ _____	Date: _____								
Test Line #: _____ () <small>(Newly Installed for test or converted line)</small> Can be reached #(s): _____ () _____ () _____									
Trouble Description: _____ <small>(Please provide a detailed account of the problem you are experiencing.)</small> _____ _____ _____ _____ _____ _____									
Trouble effected my test calls by: _____ <small>(How did the trouble inhibit your test calls? Test Call #?)</small> _____ _____ _____ _____ _____ _____									
<table style="width: 100%; border: none;"> <tr> <td style="width: 30%;">Problem is:</td> <td style="width: 20%; text-align: center;">CONSTANT</td> <td style="width: 20%; text-align: center;">INTERMITTENT</td> <td style="width: 30%; text-align: center;">FREQUENCY UNKNOWN</td> </tr> <tr> <td colspan="4"><small>(Please Circle One.)</small></td> </tr> </table>		Problem is:	CONSTANT	INTERMITTENT	FREQUENCY UNKNOWN	<small>(Please Circle One.)</small>			
Problem is:	CONSTANT	INTERMITTENT	FREQUENCY UNKNOWN						
<small>(Please Circle One.)</small>									
Additional Comments or Concerns: _____ _____ _____ _____ _____ _____									

***NOTE: Please return this form with the "Call Detail Log" you have filled out -- even if there was no trouble. Also, please report your trouble to Maintenance and Repair at 877-389-2032. Customer Service can be reached at 877-341-4578.

For CGE&Y Internal Use Only:

C

U

H

R

Appendix F – AT&T / HPC / CGE&Y Interface Process For Qwest OSS Test

AT&T / HPC /CGE&Y Interface Process For Qwest OSS Test

1.0 Overview

This document describes the process to be used by AT&T, HPC and CGE&Y in support of unbundled loop (UNE-L) and Number Portability (NP) test cases for the Qwest OSS test. The test cases to be supported by AT&T, which are based on the scenarios found in the Master Test Plan, Appendix A, include:

- Conversion from retail, resale, or unbundled loop with ports (UNE-P) to UNE-L, UNE-L with NP or UNE NP.
- new UNE-L

AT&T is working in partnership with HPC (the pseudo-CLEC) to provision and test unbundled loop and LNP services. AT&T has dedicated vacant co-location facilities to be used when processing these types of orders and will act as the engineering/switching group for HPC.

2.0 Facility Identification

AT&T has identified collocation sites and the dedicated facilities available for this test on a list provided to CGE&Y. This spreadsheet will be known as the QWEST COLLO Spreadsheet.xls. These facilities will serve as HPC's facility inventory for the duration of the test. CGE&Y will be responsible for assignment of the facilities to specific orders and document this information on the associated test script. CGE&Y will maintain the facility list inventory, as orders are installed or disconnected, to ensure only the vacant facilities are assigned to orders. An update of the CFA status to 'vacant' or 'in use' will be based on HPC's receipt of a Service Order Completion (SOC) from Qwest on the associated order.

The QWEST COLLO Spreadsheet.xls will be used by CGE&Y to preassign orders to facilities and will be sent, via email, two weeks in advance of the order Due Date to [Redacted] at AT&T for preprovisioning. All lines should be provisioned with toll restriction and 900/976 blocking. The CGE&Y contact is [Redacted]

3.0 UNE-L Process (without NP) [AT&T: New In]

This section describes the interaction between the participants and identifies when and how communication should take place.

3.1 Provisioning

1. Two Business week prior to the anticipated due date of the test case, CGE&Y will email the QWEST COLLO Spreadsheet.xls to [Redacted] at AT&T [Redacted]. All lines should be provisioned with toll restriction and 900/976 blocking.
2. Within 8 hours of receiving an Firm Order Confirmation (FOC), CGE&Y will email the Provisioning Request Form (PRF) with the test case details and Subject Line '[Tracking Number]-New IN' to [Redacted] at AT&T [Redacted]. See Figure 1 below. The PRF will contain the Frame Due Time (FDT) that will be between 9:30 AM to 4:30 PM MST.
3. If any conflict is found with the assigned CFA, AT&T will notify CGE&Y of the new CFA via email within 48 hours of receipt with Subject Line '[Tracking Number - CFA Error]'. CGE&Y will update the CFA list and the test case script with the new CFA.
4. If there are any changes to an order (DD, CFA, etc.) after the original PRF has been sent, CGE&Y will contact AT&T via email with Subject Line '[Tracking Number]-New IN order Change and include a new PRF.

3.2 Testing

- 1.1 Once the installation is complete at the DMARK, Qwest will call HPC/Qwest. HPC/Qwest will then call AT&T, [Redacted] with the Qwest tech on the line to notify them that Qwest has finished provisioning the order.
2. AT&T will make test calls on a separate line. After the test calls have been completed, AT&T will inform HPC/CGE&Y and the Qwest tech of the status of the test. At the conclusion of testing, AT&T will email the PRF to CGE&Y with Subject Line [*Tracking Number* – Test Results] and the result of the testing.
3. If a successful test call does not occur within one hour and after AT&T having followed normal internal trouble procedures, (e.g., checking all areas of the AT&T network). AT&T will provide CGE&Y with a status update. CGE&Y will notify HPC to contact Qwest and follow regular maintenance and repair procedures. When Qwest reports that the loop is installed, repeat from Step 1.
4. During the loop-testing interaction, the emailed status will serve to document the steps taken by CGE&Y and AT&T. In addition; HPC will update the comments on their record of the order with all testing activities. All parties should be careful to include date, time and description of activities to properly support data collection for the final report.

Provisioning Request Form	
Sent Date and Time	<input type="text"/>
Tracking #	<input type="text"/>
Due Date Requested	<input type="text"/>
FDT/TBCC	<input type="text"/>
TN / CKID	<input type="text"/>
CFA	<input type="text"/>
Product Type	<input type="text"/>
FOC D/T	<input type="text"/>
Activation Complete D/T	<input type="text"/>
Test Results	<input type="text"/>
Test Complete D/T	<input type="text"/>
Remarks	<input type="text"/>

Figure 1: Provisioning Request Form

UNE-L with NP [AT&T: LOOP with NP]

This section describes the interaction between the participants and identifies when and how communication should take place.

4.1 Provisioning

1. Two Business week prior to the anticipated due date of the test case, CGE&Y will email the QWEST COLLO Spreadsheet.xls to [Redacted] at AT&T [Redacted] . All lines should be provisioned with toll restriction and 900/976 blocking.
2. Within 8 hours of receiving an Firm Order Confirmation (FOC), CGE&Y will email the Provisioning Request Form (PRF)(see Figure 1) with the test case details and Subject Line '[Tracking Number]- LNP' to [Redacted] at AT&T [Redacted] . See Figure 1. The PRF will include the Frame Due Time (FDT) for the Coordinated Hot Cut (CHC) that will be between 9:30 AM to 4:30 PM MST.
3. If any conflict is found with the assigned CFA, AT&T will notify CGE&Y of the new CFA via email within 48 hours of receipt with Subject Line '[Tracking Number – CFA Error]'. CGE&Y will update the CFA list and the test case script with the new CFA.
4. If there are any changes to an order (DD, CFA, etc.) after the original PRF has been sent, CGE&Y will contact AT&T via email with Subject Line '[Tracking Number]-LNP Order Change' and include a new PRF.
5. Within 18 hours of the time the FOC is received by HPC, AT&T will send a subscription version concurred to the National Portability Administration Center (NPAC) to establish the ported number ownership on the due date. If the 18 hour window expires AT&T will send the subscription version create, and if there is no concur within 18 hours, AT&T will send an activate. CGE&Y will notify HPC to notify Qwest to concur on the subscription activate.
6. If the port out request from Qwest does not match the port in request from AT&T, a conflict will be set by the NPAC. Both Qwest and AT&T will be notified of the conflict status. AT&T will notify the CGE&Y of the conflict, who will notify HPC to resolve the conflict with Qwest. After resolution, HPC will notify CGE&Y to notify AT&T to continue with the provisioning of the LSR.

4.2 Testing

1. On the due date at the CHC time, Qwest will contact HPC to request permission to start the CHC. The CGE&Y monitor will observe the discussion that HPC and Qwest have to convert the service. Qwest calls HPC again and advises HPC that the cut is complete. The CGE&Y monitor will contact AT&T at [Redacted] to notify them that Qwest has finished porting the loop and to have AT&T send the subscription version activate message and complete the port in.
2. AT&T will make test calls on a separate line. After the test calls have been completed, AT&T will inform HPC/CGE&Y of the status of the test. At the conclusion of testing, AT&T will email the PRF to CGE&Y with Subject Line '[Tracking Number – Test Results]' and the result of the testing.'
3. If a successful test call does not occur within one hour and after AT&T having followed normal internal trouble procedures, (e.g., checking all areas of the AT&T network). AT&T will provide CGE&Y with a status update. CGE&Y will notify HPC to contact Qwest and follow regular maintenance and repair procedures. When Qwest reports that the loop is installed, repeat from Step 1.
4. On the due date at the CHC time, if the Qwest technician does not detect dial tone, HPC will verify that the technician is testing from the POT bay and not from the MDF. If the Qwest technician confirms the testing is from the POT bay, HPC will notify the CGE&Y monitor to contact the AT&T to check the facility. HPC will also verify that the Qwest technician did not cut the customer over with no dial tone. If the Qwest technician says that the customer was cut over without dial tone, HPC will instruct the Qwest technician to build the customer back into the Qwest switch, and then will notify CGE&Y to contact AT&T to check the facility.
5. If AT&T reports the facility is clear and translations are correct, HPC will notify Qwest to attempt the cut again.
6. If the problem cannot be resolved within the same day, HPC will Supp the order to change the due date to 5 days out and notify CGE&Y of the status of the LSR.

7. As soon as HPC receives the FOC on the supp'd order, CGE&Y will send a revised PRF, within 8 hours, to AT&T with Subject Line '[Tracking Number – LNP New Due Date]' with the new due date and a remark of 'no dial tone at COLLO'.
8. AT&T will request their tech to verify facilities and translations are correct
9. AT&T will send the PRF via email to CGE&Y prior to the supp due date advising of the results of the facility and translations verification.
10. On the supp due date, the HPC will follow the procedure described in step 1 above for the CHC.
11. If the Qwest technician still detects no dial tone on the supp date, HPC will request that Qwest issue a trouble ticket and CGE&Y will advise AT&T to issue a trouble ticket so both technicians can test jointly at the collocation.
12. When the loop has been cut successfully, AT&T will notify CGE&Y by sending the PRF via email with Subject Line '[Tracking Number – Test Results]'.
13. During the loop-testing interaction, the emailed status will serve to document the steps taken by CGE&Y and AT&T. In addition, HPC will update the comments on their record of the order with all testing activities. All parties should be careful to include date, time and description of activities to properly support data collection for the final report.

**Note: Any Changes of CFA's will require the due date to be moved out
2 weeks and AT&T notified of the change.**

5.0 UNE NP [AT&T NP only]

This section describes the interaction between the participants and identifies when and how communication should take place.

5.1 Provisioning

1. Two Business week prior to the anticipated due date of the test case, CGE&Y will email the QWEST COLLO Spreadsheet.xls to [Redacted] at AT&T [Redacted] . All lines should be provisioned with toll restriction and 900/976 blocking.
2. CGE&Y will deliver the order scripts to the Pseudo-CLEC the day prior to the LSR order issue date. Scripts will include the data required to complete the LSR entry process. If the request is a coordinated conversion, the frame due time, implication contact and contact number will be included.
3. When the FOC is received CGE&Y will email the PRF within eight hours to [Redacted] at AT&T [Redacted] . See Figure [format] AT&T with Subject Line '[Tracking Number] – LNP FOC'. The PRF will include the [format] Frame Due Time (FDT) for the Coordinated Hot Cut (CHC) that will be between 9:30 AM to 4:30 PM MST.
4. If there is a change to the due date requested on the script when the FOC is received, CGE&Y will contact AT&T via email with Subject Line '[Tracking Number] – LNP FOC Due Date Change'.
5. Within 18 hours of the time the FOC is received by HPC, AT&T will send a subscription version concurred to the National Portability Administration Center (NPAC) to establish the ported number ownership on the due date. If the 18 hour window expires AT&T will send the subscription version create, and if there is no concur within 18 hours, AT&T will send an activate. If the activate needs to be sent prior to the 18 hour time-out AT&T will notify CGE&Y via phone call, followed by an email, that HPC must ask Qwest to concur. CGE&Y will notify HPC to notify Qwest to concur on the subscription activate.
6. If the port out request from Qwest does not match the port in request from AT&T, a conflict will be set by the NPAC. Both Qwest and AT&T will be notified of the conflict status. AT&T will notify the CGE&Y of the conflict, who will notify HPC to resolve the conflict with Qwest. After resolution, HPC will notify CGE&Y to notify AT&T to continue with the provisioning of the LSR.

5.2 Testing

1. On the due date at the CHC time, the CGE&Y monitor will notify HPC to contact Qwest to convert the service. When Qwest advises HPC that the cut is complete, the CGE&Y monitor will contact AT&T {CONTACT NAME} at [Redacted] to notify them that Qwest has finished provisioning the loop and to have AT&T send the subscription version activate message and complete the port in.
2. Qwest will call HPC and notify them that they are ready to disconnect their end. Once Qwest disconnect, Qwest will call HPC and let them know. HPC will then call AT&T to notify them to activated order. AT&T will then activate TN(S) in NPAC.
3. AT&T will initiate testing on the ported TN, to ensure the TN has been properly converted. The test will consist of test calls being made. The test calls should reach an intercept message which states: "You have reached BTN "(the message will read back the BTN area code first). This number has been changed to [Redacted]." AT&T will confirm the port in to CGE&Y by emailing the PRF with Subject Line '[Tracking Number – Test Results]’.
4. During the conversion of the UNE NP, the emailed status will serve to document the steps taken by CGE&Y and AT&T. In addition; HPC will update the comments on their record of the order with all testing activities. All parties should be careful to include date, time and description of activities to properly support data collection for the final report.

6.0 Recovery of Facilities

At the conclusion of the Functionality Test CGE&Y will disconnect all lines on AT&T facilities. CGE&Y will notify AT&T via email that Functionality Testing has been concluded and that all facilities are released. AT&T will port all TNs back to Qwest and verify via an email to CGE&Y

7.0 Contact List

	Contact Name	Email	Phone
CGE&Y			
Primary	[Redacted]	[Redacted]	[Redacted]
Primary	[Redacted]	[Redacted]	[Redacted]
Escalation	[Redacted]	[Redacted]	[Redacted]
	[Redacted]	[Redacted]	[Redacted]
AT&T			
Primary	[Redacted]	[Redacted]	
Escalation			
HPC			
Primary			
Escalation	[Redacted]	[Redacted]	

Appendix G – Order Test Documents

UNE-L and UNE-P to UNE-L Order Test Document

Tracking # 0

Circuit Testing Status

<p>Testing Status -----> </p> <p>In Progress (IP), Hold (H), Trouble Ticket required (TT) or Complete (C)</p>	
<p>Follow-up Required</p>	
<p>Circuit previously <u>Disconnected</u></p>	
Date ----->	
Order # ----->	

Pre SOC Local Loop Test (Pass/Fail) ----->	
Post SOC Local Loop Test (Pass/Fail) ----->	0
<p style="text-align: right;">Trouble Ticket required (Y/N) </p>	

Pre SOC QWEST Facility Test (Pass/Fail) ----->	
Pre SOC CLEC Facility Test (Pass/Fail) ----->	
Post CLEC Facility Test (Pass/Fail) ----->	
<p style="text-align: right;">Trouble to be turned over to CLEC (Y/N) </p>	
<p>Notes:</p> <div style="border: 1px solid black; height: 150px; margin-top: 5px;"></div>	

Circuit Testing Request Form

QWEST Information

Date	<input type="text" value="1/0/00"/>
CLEC	<input type="text" value="0"/>
ECCKT	<input type="text" value="0"/>
PON #	<input type="text" value="0"/>
TN #(Conv. only)	<input type="text" value="-"/>
ADDRESS	<input type="text" value="0"/>
<hr/>	
FDT/TBCC	Date -----> <input type="text" value="1/0/00"/>
	Time -----> <input type="text" value="12:00 AM"/>

Tracking # 0

Order Data

CLEC	<u>0</u>		
PON #	<u>0</u>	Order #	<u>0</u>
	FOC Date	<u>1/0/00</u>	
	SOC Date	<u>1/0/00</u>	
	Due Date	<u>01/00/00</u>	
TN #	<u>-</u>	ECCKT	<u>0</u>
CFA	<u>0</u>		
CUSTOMER NAME	<u>0</u>		
ADDRESS	<u>0</u>		
Contact Name	<u>0</u>		
<hr/>			
C oordinated H ot C ut	<u>1/0/1900</u>	Date ----->	<u>1/0/00</u>
		Time ----->	<u>12:00 AM</u>

Tracking #

0


Testing Information

Test Auditor		Maintenance ADM	
Date of Observation		Time of Observation	
Order Status	SOC'd Order Order In Progress Circuit Disconnected	If Disconnected Disconnect Order # Date Disconnected	
<div style="display: flex; justify-content: space-between;"> <div> <p>Coordinated Hot Cut -- One (1) Hour</p> <p>LOOP (Verigate) (-)</p> <p>LOOP (MLT)</p> <p>Difference</p> <p>Is the loop length Difference > +1000' (Y/N)?</p> <p>Test Pass/Fail</p> </div> <div> <p>Prior to Cut</p> <p>QWEST</p> <p>Dial Tone (Y/N)</p> <p>Recording (Y/N)</p> <p>Recording Type ANI</p> <p>Test Pass/Fail</p> <p>CLEC</p> <p>Dial Tone (Y/N)</p> <p>Recording (Y/N)</p> <p>Recording Type ANI</p> <p>Test Pass/Fail</p> </div> </div>			
<div style="display: flex; justify-content: space-between;"> <div> <p>After Cut</p> <p>LOOP (Verigate) (-)</p> <p>LOOP (MLT)</p> <p>Difference</p> <p>Is the loop length Difference > +1000' (Y/N)?</p> <p>Test Pass/Fail</p> </div> <div> <p>or when SOC'd</p> <p>CLEC</p> <p>Dial Tone (Y/N)</p> <p>Recording (Y/N)</p> <p>Recording Type (Dead Number, etc.)</p> <p>ANI (958)</p> <p>CLEC or PB ANI</p> <p>Test Pass/Fail</p> </div> </div>			

Tracking #

0

Trouble Reporting

End User "A"	Local Loop	QWEST CO (Colo)	CLEC Facility	CLEC Switch "C"	
					
Notify CLEC to issue a trouble Ticket!		Request short on the assigned pair on the Frame.			
If Failed, Issue TT		Short Observed (Y/N)?			
Date		If "Yes"			
Time		Notify facility provider of the trouble.			
Ticket Number#.		If Failed, Issue TT			
Notes: <div style="border: 1px solid black; height: 100px; width: 100%;"></div>		Date			
		Time			
		Providers Trouble Ticket Number #			

UNE-L with NP Order Test Document

Tracking # 0

Circuit Testing Status

<p>Testing Status -----> </p> <p>In Progress (IP), Hold (H), Trouble Ticket required (TT) or Complete (C)</p>	
<p>Follow-up Required</p> <p>Circuit previously <u>Disconnected</u></p> <p style="margin-left: 150px;">Date -----> </p> <p style="margin-left: 150px;">Order # -----> </p> <p>*****</p> <p>CHC Start Time -----> 0:00</p> <p>CHC CO called Time -----> 0:00</p> <p>CHC CO called Time -----> 0:00</p> <p style="text-align: right; margin-right: 50px;">Trouble Ticket required (Y/N) </p> <p>*****</p> <p>CHC CO Complete Time -----> </p> <p>CHC Complete Time -----> </p> <p>CHC Total Time -----> </p> <p style="text-align: right; margin-right: 50px;">Trouble to be turned over to CLEC (Y/N) 0</p> <div style="border: 1px solid black; height: 150px; margin-top: 10px; padding: 5px;"> <p>Notes:</p> </div>	

Circuit Testing Request Form

Tracking #

QWEST Information

Date	<input type="text"/>	Order#	<input type="text" value="0"/>
CLEC	<input type="text" value="HPC"/>		
ECCKT	<input type="text" value="0"/>		
PON #	<input type="text" value="0"/>		
TN # _(Conv. only)	<input type="text" value="-"/>		
ADDRESS	<input type="text" value="0"/>		
C oordinated H ot C ut	<input type="text" value="Y"/>	Date ----->	<input type="text" value="1/0/00"/>
		Time ----->	<input type="text" value="0:00"/>

Tracking #

0

Testing Information

Test Auditor			
Date of Observation		Time of Observation	
Order Status	SOC'd Order Order In Progress Circuit Disconnected	If Disconnected Disconnect Order # Date Disconnected	
<div style="display: flex; justify-content: space-between;"> ← Coordinated Hot Cut -- One (1) Hour Prior to Cut → </div>			
START TIME		Dial Tone (Y/N) Recording (Y/N) Recording Type ANI	QWEST
CO Called			
CO START			
		Dial Tone (Y/N) Recording (Y/N) Recording Type ANI	CLEC
<hr style="border-top: 1px dashed black;"/>			
After Cut or when SOC'd			
CO COMP		Dial Tone (Y/N) Recording (Y/N) Recording Type (Dead Number, etc.)	CLEC
Hot Cut COMP.		ANI	
TOTAL TIME			

0

[illegible]

UNE with LNP Only

Tracking # 0

Circuit Testing Status

<p>Testing Status -----> </p> <p>In Progress (IP) , Hold (H), Trouble Ticket required(TT) or Complete (C)</p>					
<p>QWEST FDT TBCC</p> <table style="width: 100%;"> <tr> <td style="width: 60%;">Date -----></td> <td style="width: 40%; text-align: center;">1/0/00</td> </tr> <tr> <td>Time -----></td> <td style="text-align: center;">0:00</td> </tr> </table> <p>*****</p>		Date ----->	1/0/00	Time ----->	0:00
Date ----->	1/0/00				
Time ----->	0:00				
<p><u>Pre Test Call (Pass/Fail) -----></u></p> <p style="text-align: center;">1/0/00 0:00</p>	 				
<p><u>Post Test call (Pass/Fail) -----></u></p> <p style="text-align: center;">1/0/00 0:00</p>	 				
<p><u>Post Test call (Pass/Fail) -----></u></p> <p style="text-align: center;">1/0/00 0:00</p>	 				
<p><u>Post Test call (Pass/Fail) -----></u></p>	 				
<p>Notes:</p> <div style="border: 1px solid black; height: 150px; width: 100%; margin-top: 5px;"> </div>					

Circuit Testing Request Form

QWEST Information

Date	<input type="text" value="1/0/1900"/>
CLEC	<input type="text" value="0"/>
ECCKT	<input type="text" value="0"/>
PON #	<input type="text" value="0"/>
TN # _(Conv. only)	<input type="text" value="-"/>
ADDRESS	<input type="text" value="0"/>
C oordinated H ot C ut	<input type="text" value="Y"/>
Date ----->	<input type="text" value="1/0/00"/>
Time ----->	<input type="text" value="0:00"/>

Tracking # 0

Order Data

CLEC	0		
PON #	0	Order #	0
	FOC Date		1/0/00
	SOC Date		1/0/00
	Due Date		01/00/00
TN #	-	ECCKT	0
CFA	0		
CUSTOMER NAME	0		
ADDRESS	0		
Contact Name	0		
C oordinated H ot C ut	Y	Date ----->	1/0/00
		Time ----->	0:00

0

Test Auditor 	Maintenance ADM
<div style="display: flex; justify-content: space-between;"> <div style="text-align: left;"> QWEST FDT CHC </div> <div style="text-align: right;"> TBCC Date 1/0/1900 Time 0:00 </div> </div>	
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="width: 45%; text-align: center;"> LNPO -- <u>Prior to Cut</u> </div> <div style="width: 10%; text-align: center;"> </div> <div style="width: 45%; text-align: center;"> LNPO -- <u>Post Cut</u> </div> </div>	
DATE TIME 	DATE TIME
Call telephone number: Findings Recording (Y/N) Recording Type Test Pass/Fail 	Call telephone number: Findings Recording (Y/N) Recording Type Test Pass/Fail
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%; text-align: center;"> LNPO -- <u>Post Cut</u> </div> <div style="width: 10%; text-align: center;"> </div> <div style="width: 45%; text-align: center;"> LNPO -- <u>Post Cut</u> </div> </div>	
DATE TIME 	DATE TIME
Call telephone number: Findings Recording (Y/N) Recording Type Test Pass/Fail 	Call telephone number: Findings Recording (Y/N) Recording Type Test Pass/Fail

0

Notes:

Appendix H – Test Order Scripts

Test Order Scripts

Tracking_Number:

PON:

Issue_Date:

Media_Type:

WTN:

TN:

Customer_Type:

Customer_Name:

Service_Address:

Number_Of_Lines:

Hunt_Type:

Scenario:

CHC_Information:

Supplemental_Action:

Remarks:

Cap Gemini Ernst and Young PROPRIETARY - Use Pursuant to Company Instructions

Generated on: ____ Page 1 of _

Test Order Scripts

Line:

Feature:

PIC:

LPIC:

Directory:

CFA:

CBR:

Activity Request:

Cap Gemini Ernst and Young PROPRIETARY - Use Pursuant to Company Instructions

Generated on: _____Page 2 of _

Appendix I – Letters of Authorization for Residence and Business

Letter of Authorization

Customer Billing Name: _____

Customer Billing Telephone Number: _____

Preferred Directory Listing (circle one): Published Non-Published other: _____

Secondary Line Telephone Number (if applicable): _____
(circle one) Convert secondary line install second line install third line

Customer Street Address: _____

City, State, Zip Code: _____

Individual authorized to act for customer: _____

Employer: _____

By signing below, I am authorizing Cap Gemini Ernst & Young (CGE&Y) to order QWEST or another phone company to install or convert up to two secondary telephone lines onto my premises for up to nine months, but in any event concluding no later than December 2001, and I further acknowledge and agree to be bound by, and to comply with, the terms and conditions specified below. All installation, conversion, disconnection or removal (if applicable) and usage billing related to ARIZONA CORPORATION COMMISSION (ACC) usage and functionality testing for said lines will be charged to CGE&Y.

I understand and acknowledge that the test lines installed and/or converted will be secondary lines that may not be available for use at all times. I agree to hold CGE&Y and all other parties involved in the usage and functionality testing harmless from any damage or injury related to the installation, removal or non-availability of the lines related to the ACC usage testing. I acknowledge and agree that CGE&Y may disconnect or remove such lines or convert such lines back to their original state at any time without notice.

The newly installed lines are to support the testing effort. I understand I will be responsible for conducting the testing on the test line(s).

I understand the activities surrounding the installation and usage testing is private and confidential and I agree not to disclose any information surrounding the installation, usage or testing to anyone other than CGE&Y.

I understand and agree that any usage other than ACC testing usage will be considered unrelated to testing and will be billed to me personally and that I will be responsible for, and will timely pay, for such usage.

I understand and agree that I will be responsible for performing a limited number of test calls on this test line (5 to 10 test calls a month) to generate call activity on the test line and I will record the execution and results of those test calls on the Call Detail Logs provided to me prior to testing. I understand CGE&Y will provide the specific test calls to be completed on the test line.

I understand I will be provided Call Detail Logs to report on test call execution and I will be responsible for completing the Call Detail Logs on the specified date and returning the Call Detail Logs to CGE&Y in the postage paid envelope I will receive prior to testing.

I acknowledge and agree that by allowing for the installation or conversion of the secondary test line or lines, by performing the test calls, recording the results in the Call Detail Logs, returning such logs to CGE&Y and all other matters related thereto. I will not be considered an employee of CGE&Y, I will not be entitled to any salary or benefits accorded to CGE&Y employees. The sole consideration for the installation or conversion of the secondary line or lines, the making and the recording of the test calls in the Call Detail Logs, returning such logs and all matters related thereto or hereto shall be \$1.00.

By signing below, I certify I have read, understand and agree with and to all of the provisions and terms and conditions in this Letter of Authorization. I further certify that I am at least 18 years of age and I am authorized to allow telephone installations for service and conversions of existing lines specified by me to the address listed above.

Please sign and return this Letter of Authorization by (2 weeks from distribution date). If there are any questions, call one of the numbers below.

Signed _____ **Date** _____

Thank you for opening your facility and/or home in order to assist the ACC Sedona Project End User Test Team in fulfilling our testing requirements.

Return Signed LOA to: Cap Gemini Telecommunications **Or FAX to: (480) 736-8505**
Attn: SEDONA TEAM

[Redacted]

[Redacted]

[Redacted]

ACC Sedona Project End User Test Team:

[Redacted]– End User Team Lead

[Redacted]

[Redacted]

Letter of Authorization

Customer Business Billing Name: _____

Customer Business Billing Telephone Number: _____

Preferred Directory Listing (circle one): Published Non-Published other: _____

Secondary Line Telephone Number (if applicable): _____
(circle one) Install new line/s Convert specified line/s

Customer Street Address: _____

City, State, Zip Code: _____

Individual authorized to act for customer: _____

Employer _____

By signing below, I am authorizing Cap Gemini Ernst & Young (CGE&Y) to order QWEST or another phone company to install or convert multiple lines as specified onto my premises for up to nine months, but in any event concluding no later than December 2001, and I further acknowledge and agree to be bound by, and to comply with, the terms and conditions specified below. All installation, conversion, disconnection or removal (if applicable) and usage billing related to ARIZONA CORPORATION COMMISSION (ACC) usage and functionality testing for said lines will be charged to CGE&Y.

I understand and acknowledge that the test lines installed and/or converted will be secondary lines that may not be available for use at all times. I agree to hold CGE&Y and all other parties involved in the usage and functionality testing harmless from any damage or injury related to the installation, removal or non-availability of the lines related to the ACC usage testing. I acknowledge and agree that CGE&Y may disconnect or remove such lines or convert such lines back to their original state at any time without notice.

The newly installed lines are to support the testing effort. I understand I will not be responsible for conducting the testing on the test line(s).

I agree not to disclose any information surrounding the installation to anyone other than CGE&Y.

I understand and agree that any usage other than ACC testing usage will be considered unrelated to testing and will be billed to me personally and that I will be responsible for, and will timely pay, for such usage.

I acknowledge and agree that by allowing for the installation or conversion of the test line or lines, I will not be considered an employee of CGE&Y, I will not be entitled to any salary or benefits accorded to CGE&Y employees. The sole consideration for the installation or conversion of said lines hereto shall be \$1.00.

By signing below, I certify I have read, understand and agree with and to all of the provisions and terms and conditions in this Letter of Authorization. I further certify that I am authorized by my company to allow telephone installations for service and conversions of existing lines specified by me to the address listed above.

Please sign and return this Letter of Authorization by (2 weeks from distribution date). If there are any questions, call one of the numbers below.

Signed _____ Date _____

Thank you for opening your facility and/or home in order to assist the ACC Sedona Project End User Test Team in fulfilling our testing requirements.

Return Signed LOA to: Cap Gemini Telecommunications **Or FAX to: (480) 736-8505**
Attn: SEDONA TEAM

[Redacted]

[Redacted]

[Redacted]

ACC Sedona Project End User Test Team:

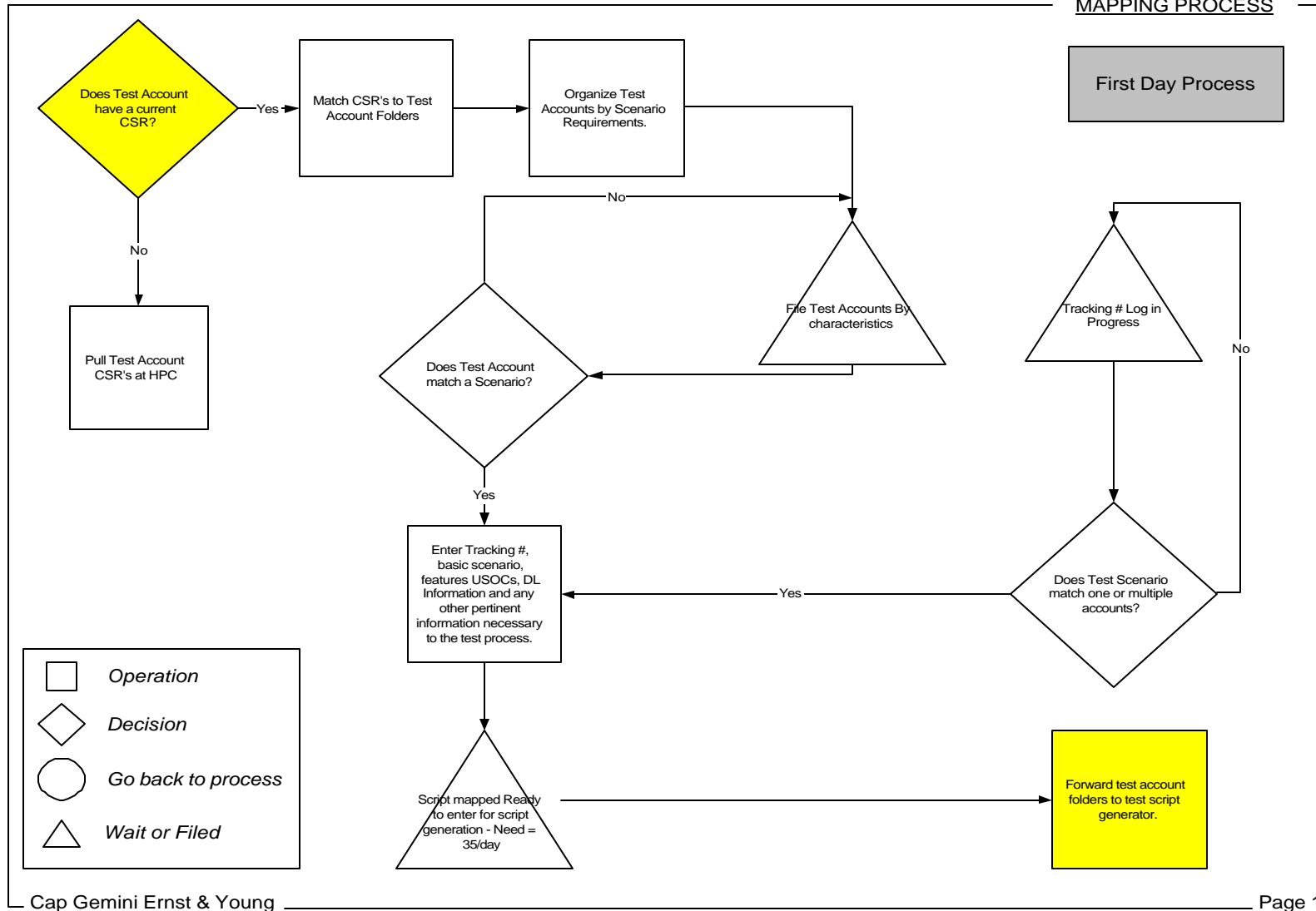
[Redacted]– End User Team Lead

[Redacted]

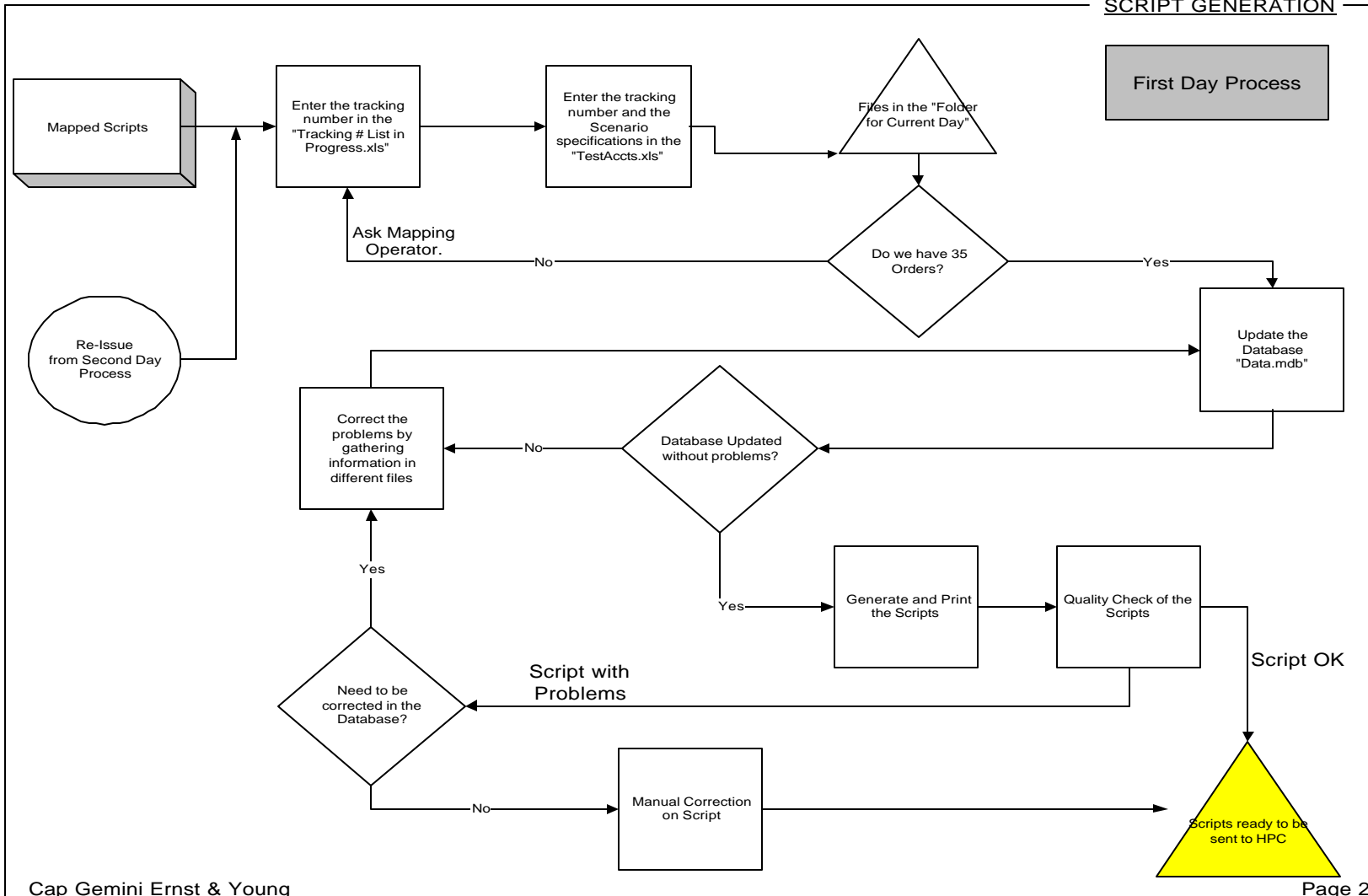
[Redacted]

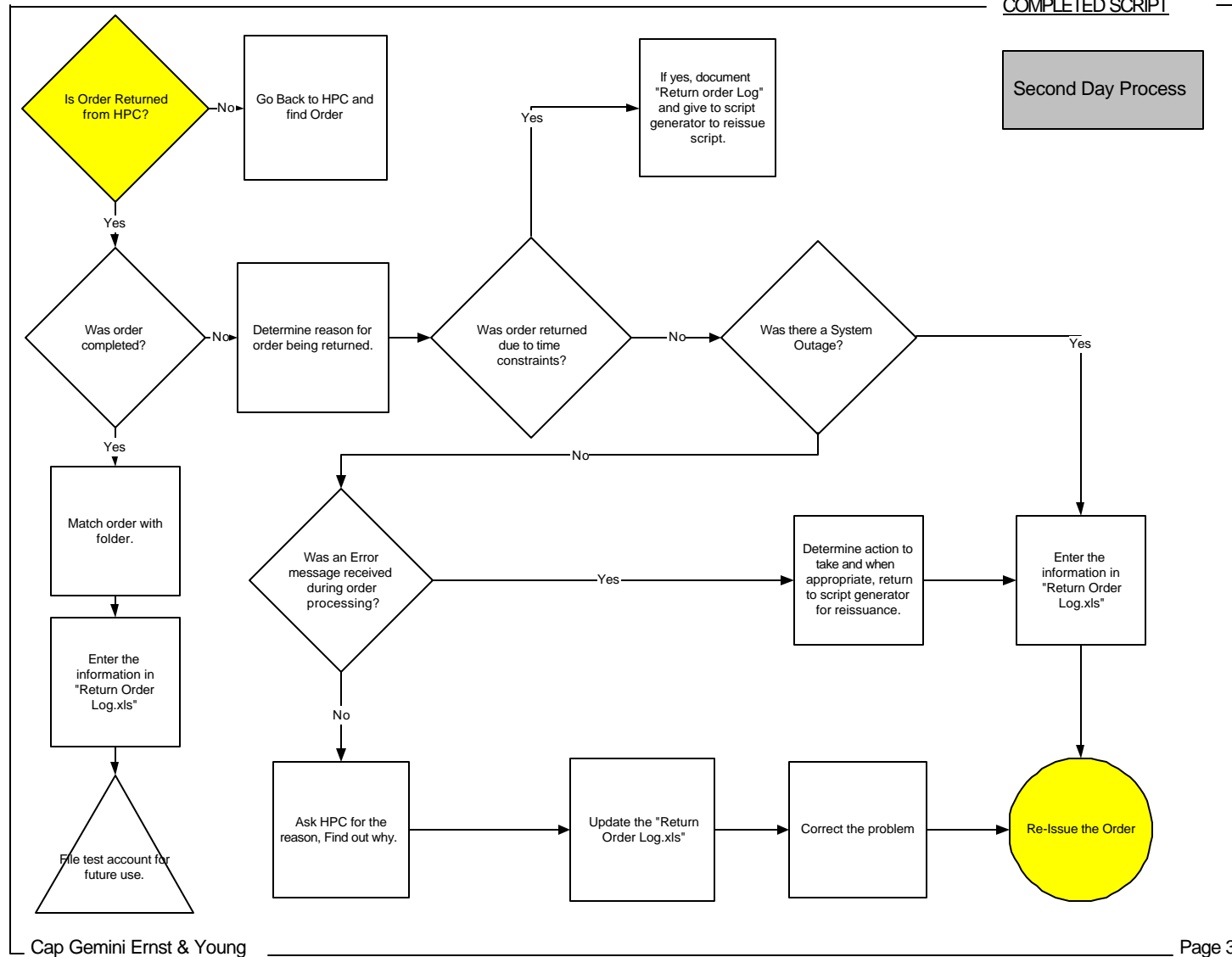
Appendix J – Order Execution Process

MAPPING PROCESS



SCRIPT GENERATION





Appendix K – COVAD Observation Data

Tracking Number	PON	INTER FACE	Date Submitted	Requested Due Date	Pending Status	FOC Received	Due Date	Comments
XDSL21SF001		IMA						The main TN 480-736-[Redacted] was entered via the raw loop tool a address of [Redacted] S. Cottonwood Rd displayed. When the address [Redacted] w. Broadway Ste. B240 was entered a valid range could not be found. Merrill Bennett looked up the information in the Qwest systems and found the Broadway entry should have been Broadway RD. Also, the wrong address display was the result of the main CGEY number in Premise was 7360158. Unless the main billing number is input, the loop tool will not display the correct information. Observation: Covad confirmed that ISP's get numbers from the end users. If they have second lines, that is the number given to process. This creates a problem with the way Premise is structured and the data displayed.
XDSL21SF002	996343	IMA	4/5/2001 0:00	4/12/2001 0:00	JEO	4/9/2001	4/12/2001	Not provisioning SLCs.
XDSL21SF003	990170	IMA	4/3/2001 0:00	4/11/2001 0:00	JEO	4/6/2001 6:40:00 PM MDT	4/11/2001	When telephone number was entered, the raw loop tool pulled up the address of xxx S. McDonald.
XDSL21SF004	920065	IMA		3/6/2001 0:00	JEO	3/1/2001	3/6/2001	Held order 3/1. F1 missing. 1) FOC information is generic and lacking and requires CLEC to call help desk for true resolution. 2) The jeopardy notice was received the next day, 3/2, clarifying the "no facilities." This PON Failed due to lack of facilities. The first JEO FOC was unclear as to what the problem was. A follow -up jeopardy notice from Qwest the next day told them that the F1 cable was not available. This service came through a pair gain device.
XDSL21SF005	1063110	EDI	5/4/2001 9:20:00 AM PST		REJ			Reject same day because of invalid Connect Facility Assignment (CFA). One minute later it was re-submitted. Haven't heard back.
XDSL21SF006	1058533	IMA	5/2/2001 4:51:00 PM PST	5/9/2001 9:00:00 AM MDT		5/7/2001 9:49:00 AM MDT	5/9/2001 9:00:00 AM MDT	According to Qwest technician at Demarcation point on 5/7, the real loop length is 18.9 KF. Going to send back for redesign to obtain total reach.
XDSL21SF007	824216	IMA	12/27/2000 5:45:00 PM PST			1/2/2001 10:55 AM MDT	1/4/2001	Technician sent back for redesign. Loop was 19.8 KF.
XDSL21SF008	833772	IMA	1/3/2001 7:47:00 PM PST	1/11/2001 12:00:00 PM MDT		1/3/2001 8:50:00 PM MDT	1/11/2001	

Tracking Number	PON	INTER FACE	Date Submitted	Requested Due Date	Pending Status	FOC Received	Due Date	Comments
XDSL21SF009	1058582	IMA	5/3/2001 11:53:00 AM PST	5/10/2001 0:00		5/3/2001 12:59:00 PM MDT	5/10/2001	
XDSL21SF010	1013789	IMA	4/16/2001 7:38:00 AM PST	4/23/2001 0:00		4/18/2001 1:10:00 PM MDT	4/23/2001	No facilities available so missed date. No F1.
XDSL175001			4/13/2001 0:00					The loop qualification for [Redacted] w. LaJolla Drive was 21KF. This eliminates the location from DSL service. In the raw loop data tool program, the service could not be pulled by directory number but could be accessed by address. To verify a CSR was attempted. It failed with an error no CSR available.
XDSL175002	1002290		4/13/2001 0:00	4/20/2001 0:00	REJ		4/20/2001	Line share not available – pending order. LSR rejected. Customer not there 30 days. (Cannot be accessed if primary number not 30 days old.)
XDSL175003	1009635	EDI	4/13/2001 0:00	4/20/2001 0:00	REJ	4/18/2001 9:25:00 AM MDT	4/20/2001	First time came back as Reject because of invalid address. Second time submitted via IMA and came back as Jeopardy – held status. Called help desk on 5/8 and they said it had been re-screened and still remains a held order.
XDSL175003	1009635	IMA	4/13/2001 0:00	4/20/2001 0:00	JEO	4/18/2001 9:25:00 AM MDT	4/20/2001	Same as above.
XDSL175004	514018		7/24/2001 0:00	8/1/2001 0:00	REJ		8/1/2001 (first one)	First FOC came back with 8/1/2000 due date. Second FOC came back on 8/14/2000 as a Jeopardy because of held order for redesign. Third FOC came back to change due date to 8/22/2000.(See John's notes on form.)
XDSL175005	1018421	IMA	4/13/2001 0:00		CANC			Cancelled order due to “no facilities.” Question – Why no facilities when records reflect line sharing at 2.52 KF.
XDSL175006	1059869	IMA	5/3/2001 8:50:00 AM PST	5/10/2001 0:00			5/10/2001	
XDSL175007	1025924	IMA	4/18/2001 3:50:00 PM PST	4/25/2001 0:00		4/18/2001 5:50:00 PM MDT	4/25/2001	
XDSL175008	1059716	IMA	5/2/2001 8:05:00 PM PST	5/10/2001 0:00		5/3/2001 12:07:00 PM MDT	5/9/2001	

Tracking Number	PON	INTER FACE	Date Submitted	Requested Due Date	Pending Status	FOC Received	Due Date	Comments
XDSL177001								The loop qualification for [Redacted] S Alma School Rd in Mesa was 22KF. DSL cannot be offered. The loop data tool could not find the service by directory number but did find it by address.
XDSL177002								The address [Redacted] E. Southern Ave was not found in Qwest's data bases.
XDSL177003								The raw loop tool identified a loop of 15KF but the MLTDIST=25,300 KF. When accessed by the address, the loop read 5.5KF with no loads. Again the MLTDIST varied displaying 8300 KF.
XDSL177004								The raw loop tool when requested by TN displayed a different address than on the account. No loop information was displayed. When displayed by address, the correct account was accessed but the TN did not display. Also, no loop information was available.
XDSL177005								The loop was displayed at 11KF and qualifies for provisioning.

Appendix L – Data Reconciliation Report



Data Reconciliation Report for the Functionality Test Results

December 19, 2001

Final Version 3.0

Prepared For:

Arizona Corporation Commission

Cap Gemini Telecom Media & Networks U.S., Inc.

2301 N. Greenville Av.

Suite 400

Richardson, TX 75082

Document Control Sheet

Version	Date	Reason
3.0	12/19/01	Final release with all updates from associated IWO's

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1. Data Reconciliation Report

Introduction

In accordance with the Master Test Plan (MTP) and Test Standards Document (TSD), Cap Gemini Telecom Media & Networks U.S., Inc. d/b/a Cap Gemini Ernst & Young ("CGE&Y") based the evaluation of performance measures included in Section 2.5 of the Functionality Report, on results calculated using adhoc data files provided by Qwest. During the Functionality Test, the Pseudo-CLEC collected test data detailing transactions associated with the pre-ordering, ordering, provisioning, maintenance and repair (M&R), and billing of products and services.

The processes and findings of the reconciliation of these two data sources are presented herein.

The data files supporting this report are contained on a Highly Confidential CD available from CGE&Y.

Purpose

The data reconciliation effort evaluated the extent to which the data captured in Qwest's adhoc data files, and used to calculate §271 performance measurement results, accurately reflected the test transactions executed and the performance observed by the Pseudo-CLEC. The derivation of Qwest's adhoc data files from Qwest's detail data files was previously validated in the PMA. The data reconciliation effort differs from the PMA in that it focused on evaluating the extent to which all transactions as recordable by a CLEC would be represented in Qwest's source performance measurement data, and vice versa.

Summary of Findings

The summary of the finding for the reconciliation report is as follows:

- ◆ Service Order Completion (SOC) – CGE&Y finds that Qwest's Regional Service Order Repository (RSOR) adhoc data is accurately including the great majority of Pseudo-CLEC completions. Out of over 1659 Pseudo-CLEC completions included in RSOR and 1673 SOC's received by the Pseudo-CLEC, there were only nine discrepancies. Moreover, minor problems identified with correctly designating Pseudo-CLEC completions early on in the test (4 occurrences) have been resolved. CGE&Y finds that Qwest's RSOR adhoc data can be relied on going forward for §271 performance measurement data processing.
- ◆ Coordinated Hot Cuts – CGE&Y finds that Qwest adhoc hot cut data included all coordinated hot cuts tracked during the Functionality Test and accurately reflected the coordinated hot cut provisioning results observed by CGE&Y, including all relevant time information necessary for PID calculations. Therefore, CGE&Y finds that Qwest's

adhoc hot cut data can be relied on going forward for §271 performance measurement data processing.

- ◆ Firm Order Confirmation (FOC) – CGE&Y finds that 96% of 1643 valid FOCs received by the Pseudo-CLEC were included in CRM and 98.3% of 1606 valid FOC issuances included in CRM were received by the Pseudo-CLEC. Therefore, CGE&Y finds that Qwest’s adhoc CRM data relating to FOCs can be relied on going forward for §271 performance measurement data processing based on Qwest’s current PID interpretation.
- ◆ Jeopardies – CGE&Y finds that 2 of 13 eligible jeopardies on completed orders that were received by the Pseudo-CLEC were not contained in the Qwest adhoc jeopardy data. Moreover, the Pseudo-CLEC did not receive jeopardy notification for 3 out of the 14 jeopardies on completed orders contained in the Qwest adhoc jeopardy data. However, CGE&Y finds that the discrepant jeopardies would not change the findings as stated for PO-8 (advance jeopardy notification) in §2.5. Pseudo-CLEC data were insufficient to make any parity determination for any product.
- ◆ Rejects – CGE&Y finds that Qwest provided all 303 manual reject notifications included in CRM associated with the functionality test to the Pseudo-CLEC. Because CRM does not include LSR identifying information necessary for matching (e.g., PON), a complete matching of CRM auto-rejects to rejection notifications received by the Pseudo-CLEC was not possible. However, since an early problem with providing status update indicators was resolved, CGE&Y finds that the number of assumed auto- rejects received by the Pseudo-CLEC and the number of auto-rejects contained in CRM are reasonably similar. Therefore, CGE&Y finds that Qwest adhoc CRM data relating to rejects can be relied on going forward for §271 performance measurement data processing based on Qwest’s current PID interpretation.
- ◆ M & R – For troubles on non-designed services, 2 out of the 73 troubles (4.1%) in the Pseudo-CLEC data were not included in the Qwest MTAS adhoc data. In addition, four troubles in the Pseudo-CLEC data were in MTAS but were designated as Qwest retail troubles. CGE&Y finds that the Pseudo-CLEC data included information for 70 of the troubles found in MTAS. The remaining 15 MTAS Pseudo-CLEC troubles were correctly included in MTAS, but the Pseudo-CLEC would not expect to receive information on them as the Pseudo-CLEC did not initiate them. For troubles on designed services, CGE&Y finds there were no discrepancies between Pseudo-CLEC data and Qwest adhoc WFAC data as 2 of the 20 troubles in the Pseudo-CLEC data were legitimately not included in the Qwest WFAC data due to pending disconnect orders. All 18 designed service troubles in Qwest adhoc WFAC data were found in the Pseudo-CLEC data.
- ◆ Gateway Availability – CGE&Y finds that Qwest captured all but one Pseudo-CLEC observed outage as IT initiated Problem Management Records. However, 3 outages would be classified as GA-1 outages under Qwest’s current interpretation of the definition of “outage”, but were not included under interpretation in effect for January through June 2001. The Pseudo-CLEC did not experience any outages for the IMA-Electronic Data Interchange (EDI) system.
- ◆ Billing –CGE&Y finds that Qwest adhoc data correctly reported bill transmit dates for all months during the Functionality Test except February. This error was due to an isolated problem for which Qwest has instituted a fix. Therefore, CGE&Y finds that Qwest adhoc data for BI-2 can be relied on going forward for §271 performance measurement

data processing. In addition, CGE&Y finds that Qwest correctly reported adjustments to Pseudo-CLEC bills during the Functionality Test and Qwest adhoc data for BI-3 can be used going forward for §271 performance measurement data processing. Finally, CGE&Y finds that Qwest did not accurately report late orders for inclusion in BI-4A. CGE&Y validated that Qwest instituted a fix and finds that Qwest adhoc for BI-4A can be used going forward for §271 performance measurement data processing.

2. Test Processes and Findings

This section describes the processes used to conduct the data reconciliation, and the reconciliation findings. The scope of this evaluation was to reconcile:

- All notifiers provided by Qwest (i.e., FOCs, SOC, Rejects, and Jeopardies);
- M&R transactions based on status update e-mails provided by Qwest to the Pseudo-CLEC;
- Qwest adhoc billing data to information received through the electronic bill provided to the Pseudo-CLEC; and
- Gateway availability based on outages experienced by the Pseudo-CLEC during the Functionality Test compared to those reported by Qwest during the same time period.

2.1 Service Order Completions

2.1.1 Introduction

The reconciliation of completion notifications validated whether Qwest provided the Pseudo-CLEC with a SOC for each completion record in Qwest's RSOR adhoc data file. In addition, the reconciliation effort validated whether all completed Pseudo-CLEC service orders for which notification was received from Qwest were included as completions in RSOR for §271 measurement processing.

2.1.2 Process

In order to compare reported service order completions, data sets were constructed⁶⁵ detailing completions during the Functionality Test period for both Qwest and the Pseudo-CLEC. Qwest RSOR data files for December 2000 through August 2001 were combined to provide a complete detail of all Qwest recorded service order completions during the Functionality Test period. Records were then restricted to Pseudo-CLEC completions for comparison purposes. Pseudo-CLEC captured functionality data for all transactions were assembled to construct a table of all SOC received during the Functionality Test period.

For each data set, all completions not associated with the Functionality Test were removed to perform this evaluation. This included completions associated with the Retail Parity Evaluation and staging orders. Reconciled completions

⁶⁵ CGE&Y Archive File: Data Reconciliation Report #1 – RSOR_Completions and Pseudo-CLEC SOC.

were further restricted to only those orders which were submitted on or after December 21, 2000 (the beginning of the Functionality Test) and before July 1, 2001 (the end of the Functionality test).

Where possible, the matching of records in each data set was made on the service order number. CGE&Y also verified whether the completion date recorded in the SOC matched the completion date recorded in RSOR. In cases where the Pseudo-CLEC data did not contain a service order number, matching was made possible by using other common fields in the two data sets, e.g., PON and completion date.

2.1.3 Results

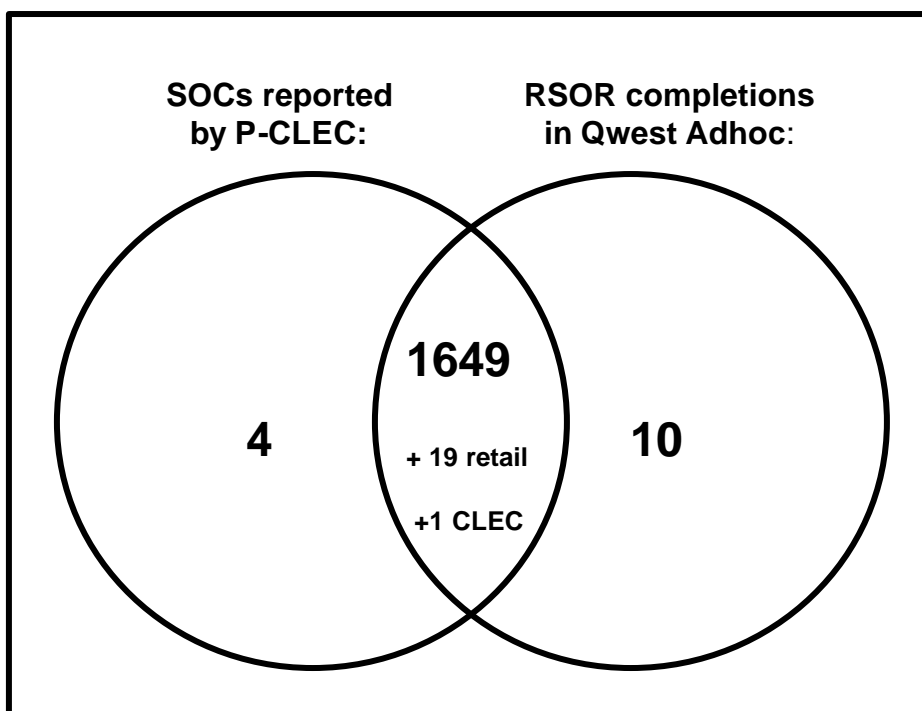
The removal of service order completions for orders not associated with or not submitted during the Functionality Test reduced the number of Qwest reported completions in RSOR to 1,659 Pseudo-CLEC completions; the removal of SOC for orders not associated with or not submitted during the Functionality Test, SOC cancels, and duplicate SOC from the Pseudo-CLEC data reduced the number of Pseudo-CLEC received SOC to 1,677.

Initially, there were 1,647 SOC that were identified in both RSOR and Pseudo-CLEC data. This constitutes 99 percent of the completions reported in RSOR and 98 percent of the SOC received by the Pseudo-CLEC. However, of the 1,677 SOC received by the Pseudo-CLEC, 30 were not represented in Qwest RSOR data. These 30 orders were the subject of AZIWO1200. CGE&Y accepted Qwest's response that 6 of these 30 orders were cancelled and would not be included in RSOR. The removal of these 6 orders from consideration lowered the Pseudo-CLEC received SOC total to 1671. Qwest classified an additional order as cancelled, however the Pseudo-CLEC received a valid SOC notification for this order. Qwest explained that a manual error caused a SOC notification to be sent on a cancelled order. CGE&Y has accepted this explanation. An additional three orders were part of a manual clean up associated with AZIWO1045 described in Qwest's First Supplemental Response (12/05/01) to AZIWO1200. These orders should have been included in RSOR. However, CGE&Y finds that this problem is not significant, as it occurred in only 3 out of over 1600 completions during the Functionality Test. In its response to AZIWO1200, Qwest stated that the remaining 20 outstanding completions were in fact included in RSOR. However, the RSOR records for 19 of these completions were identified as Qwest Retail orders and the remaining completion was identified as another commercial CLEC order. CGE&Y accepts Qwest's explanation that 15 of the orders properly designated Qwest as the CLEC ID. However, CGE&Y finds that the Pseudo-CLEC should not have received a SOC notification for these orders that were classified as Retail. For each of the remaining 5 orders, Qwest indicated that they were incorrectly designated as Retail or another CLEC due to manual errors. CGE&Y accepts Qwest's explanation and finds that Qwest's process improvements have

successfully addressed this issue as there were no additional occurrences of this type of problem after March 2001. Therefore, AZIWO1200 was closed.

Of the 1,659 completions reported in RSOR, 12 were not included in the Pseudo-CLEC data. Of these, 2 orders were disconnects associated with new installations for unbundled products, but the Pseudo-CLEC did not receive a SOC for the 2 orders; they are, however, accurately reported in RSOR. The issue of Qwest not sending SOC was discussed in AZIWO1045. The 10 remaining orders were the subject of AZIWO1201. CGE&Y accepted Qwest's response to AZIWO1201 that the Pseudo-CLEC would not receive SOC for 6 of these orders. CGE&Y also agreed with Qwest that SOC notifications were received for 2 of the 10 completions. These completions were for orders with the same PON as previously matched completions. Due to the nature of the Pseudo-CLEC data recording, in some cases the Pseudo-CLEC recorded simultaneous SOC on different order numbers for the same PON only once. The inclusion of these additional completions raises the number of Pseudo-CLEC received SOC to 1673. CGE&Y accepted Qwest's explanation that due to a manual error one completion notice was sent for the wrong order number, and due to there being only 1 occurrence of this type of error, CGE&Y is satisfied that no problem systemic issue exists. Finally, in the case of 1 RSOR completion, CGE&Y does not agree with Qwest's contention that the Pseudo-CLEC received a SOC. However, since there is only one discrepancy for over 1600 SOC during the Functionality Test, CGE&Y finds that this discrepancy be ignored and AZIWO1201 closed.

The final results for the reconciliation of RSOR and Pseudo-CLEC captured data are summarized in the following diagram:



As explained above, for the 4 unmatched Pseudo-CLEC received SOC, Qwest has classified 1 as cancelled. The remaining 3 completions were part of a manual clean-up and not included in RSOR. These orders should have been included in RSOR. Of the 19 completions for which the Pseudo-CLEC received a SOC but were designated as Qwest Retail in RSOR, 15 were appropriately designated as such. For the remaining 4 Qwest Retail designated completions and the one completion designated as another CLEC, these completions were misclassified due to manual errors by Qwest. For the 10 unmatched completions included in RSOR, 2 were Pseudo-CLEC disconnects for which a SOC was not received, 6 were completions for which the Pseudo-CLEC would not receive a SOC, 1 SOC was not received due to a manual error, and for the remaining SOC, CGE&Y disagrees with Qwest's contention that it was sent to the Pseudo-CLEC. With the exception of the misidentification of Pseudo-CLEC completions as Retail or another CLEC, CGE&Y finds agreement for greater than 99% of Pseudo-CLEC SOC data and Qwest's adhoc RSOR data. CGE&Y finds that for each matching SOC, the completion date recorded in the Pseudo-CLEC and Qwest's adhoc RSOR data matched.

2.2 Coordinated Hot Cuts

2.2.1 Introduction

The coordinated "hot cut" reconciliation compared coordinated "hot cuts" included in Qwest's adhoc hot cut data to hot cuts tracked by CGE&Y during

the Functionality Test. The reconciliation of Qwest adhoc hot cut data verified whether: (1) all hot cuts observed by the Pseudo-CLEC were included as hot cuts in Qwest's adhoc data, and (2) Qwest adhoc data elements necessary for the calculation of hot cut performance measures matched the data observed by CGE&Y.

2.2.2 Process

Qwest's adhoc hot cut files for each month from December 2000 through July 2001 were combined and restricted to Pseudo-CLEC generated Functionality Test orders. Data detailing hot cuts observed by CGE&Y during the Functionality Test were similarly combined.

Performance Measurements OP-7 and OP-13 relate to coordinated hot cuts. The following data elements, necessary for the calculation of these measures, were compared: lift time, completion time, order due time, and CLEC approval.

2.2.3 Results

Qwest adhoc hot cut data included 17 Pseudo-CLEC coordinated hot cuts during the Functionality Test. CGE&Y tracked 20 coordinated hot cuts. The Qwest adhoc hot cut data included 4 coordinated hot cuts that were not tracked by CGE&Y. CGE&Y determined that the Pseudo-CLEC elected to check the "CHC" (Coordinated Hot Cut) box on the LSR, however, these orders were not originally designed to be coordinated hot cuts and were not tracked by CGE&Y. There were 7 orders that CGE&Y tracked as coordinated hot cuts that were not included in the Qwest adhoc data. CGE&Y determined that the "CHC" box was not checked on the LSR for these orders, and thus Qwest did not provision them as coordinated hot cuts. These 7 orders were appropriately not included in Qwest's adhoc data.

For the 13 coordinated hot cuts that were included in each data source, there was 100% agreement on order due time. CGE&Y notes that the times recorded for the coordinated hot cuts would not be expected to match Qwest's adhoc data exactly as they are not measuring the same activity. CGE&Y's recorded start time indicates when Qwest called to initiate the hot cut. The start time in Qwest's adhoc data is the actual lift time of the loop. CGE&Y's stop time was the time the participating CLEC notified CGE&Y that the loop tested ok. The completion time in Qwest's adhoc data is the time that Qwest has notified the CLEC work has been completed. The start times for 12 of the 13 coordinated hot cuts recorded by CGE&Y were within 15 minutes of the lift time reported in Qwest's adhoc data. The remaining hot cut was started within 20 minutes of the time recorded by CGE&Y. There were 4 coordinated hot cuts that were performed before the frame due time. In each of these cases, the loop was "cut early" with CGE&Y's approval. All 13 coordinated hot cuts were completed within 1 hour of the frame due time where no CLEC caused delay existed in both data sources.

2.3 Firm Order Confirmations

2.3.1 Introduction

The FOC data reconciliation compared FOCs provided by Qwest to the Pseudo-CLEC with Qwest's adhoc Customer Record Manager (CRM) table to determine whether: (1) notifications were provided to the Pseudo-CLEC for all Local Service Request (LSR)-related transmissions which Qwest considers to be issuance of a FOC, and (2) FOC notifications provided by Qwest to the Pseudo-CLEC were included as FOC issuances in Qwest's data processing for §271 measurement reporting.

2.3.2 Process

Qwest's adhoc CRM files for each month from December 2000 through August 2001 were combined and restricted to Pseudo-CLEC-generated Functionality Test orders with a status of "Issued FOC" received since the Functionality Test began. FOCs received by the Pseudo-CLEC and transmitted to CGE&Y were similarly restricted⁶⁶.

Qwest CRM data does not capture the Pseudo-CLEC version number attached to Purchase Order Numbers (PONs) in its LSRs⁶⁷. Therefore, matching was performed using date-time stamps in addition to PONs. Qwest's status date-time was used, but was modified for the reconciliation process by subtracting one hour for dates on or after Sunday, April 1, 2001 to convert the field from Mountain Daylight Time (which is appropriate for Denver, where Qwest's 14-state regional data processing takes place) to Mountain Standard Time (which is applicable in the State of Arizona), so that it would more closely match the data gathered by the Pseudo-CLEC.

The Pseudo-CLEC frequently submitted LSRs several times using the same PON with different version numbers, and Qwest returned FOCs for each LSR. These are valid FOCs. However, in some cases, Qwest returns multiple FOCs for the same PON and version number to either change the due date or send comments to the CLEC (Chatter FOCs). These transmissions are not valid FOCs and only the first FOC received should be counted. In most cases, these two possibilities are indistinguishable to the CLEC without carefully reading all remarks on the FOC and viewing them in context of everything else known about the LSR and its status at the time. In addition, a FOC notifications was often stored multiple times in the Pseudo-CLEC data due to it having been either stored in multiple locations or sent multiple times at CGE&Y's request to ensure that all Pseudo-CLEC FOCs were received by CGE&Y. Therefore, all FOCs for the same PON with an identical date-time stamp in the Pseudo-CLEC data were considered duplicates. However, it remains a possibility that an

⁶⁶ CGE&Y Archive File: Data Reconciliation Report #2 – EDI_Extended, hpc_adh_crm_1221_0831a, Org_HPC, parse_foc.

⁶⁷ Qwest did capture the Pseudo-CLEC-submitted version number in IMA, as evidenced by Qwest's confidential attachment to its response to AZIWO1204, however this version number is not carried over to Qwest's adhoc CRM table. Instead, CRM contains a Qwest-generated version number, which cannot be used to match the Pseudo-CLEC version number. While this complicated the reconciliation effort, it is not a measurement deficiency, as Qwest can distinguish between different versions of the same PON. The IWO was closed.

identical FOC could be recorded multiple times in the Pseudo-CLEC data but with different date-time stamps. This might occur due to the Pseudo-CLEC having stated its preference to receive a FOC by both fax and email, or both fax and EDI.

In matching the FOCs recorded in the Pseudo-CLEC data and reported in CRM, date-time stamps cannot be expected to match perfectly between the Pseudo-CLEC's and Qwest's different systems. The clocks on the systems involved may not always be synchronized, especially when tracking different events (e.g., Qwest's decision to send a FOC vs. the Pseudo-CLEC's receipt of a FOC).

These considerations make it infeasible to accurately distinguish FOCs resulting from Qwest's transmission of multiple FOCs for the same PON from identical FOC notifications being stored multiple times, and to accurately match the same FOC event across different data sources.

Therefore, in order to provide a reasonable approximate reconciliation, CGE&Y made the following assumption:

Assumption: All FOC records occurring for the same PON within five minutes are duplicates of the same FOC event.

Using this assumption, CGE&Y matched the Pseudo-CLEC FOC data with the Qwest CRM data, using PON, date and hour of FOC transmission/receipt as key fields. If CGE&Y determined a satisfactory explanation for why a FOC was received more than 5 minutes after it was recorded by Qwest as being sent, the FOCs are considered to have been reconciled.

2.3.3 Results

The reconciliation results are presented in two phases. First, CGE&Y presents a PON-level reconciliation, determining whether all LSRs for which the Pseudo-CLEC received a FOC were included in the Qwest CRM data for §271 measurement processing, and vice versa. Subsequently, CGE&Y presents a FOC-level reconciliation, determining whether FOCs received by the Pseudo-CLEC were found within five minutes as FOCs included in CRM, and vice versa. The implications of the different results are then presented.

(a) PON-level Reconciliation:

There are 1,559 unique PONs that received a FOC in the Pseudo-CLEC data. There are 1,537 unique PONs reported in CRM for which a FOC was issued. There are 1,528 PONs common to both Pseudo-CLEC and CRM data.

CGE&Y issued AZIWO1202 because the Pseudo-CLEC data included 35 PONs that were not identified as FOCs in CRM. Qwest responded that 24 of these LSRs were rejected in error. When it discovered the LSR was rejected in error, Qwest placed these LSRs back into processing without an additional supplement. Subsequently, Qwest issued a FOC. However, Qwest's performance measurement data processing excludes from CRM all notifications after a reject status. While CGE&Y accepts this explanation for why these FOCs are not in CRM, CGE&Y disagrees with their exclusion from the performance measurement consideration and recommends that such FOCs be included. CGE&Y also considers their inclusion in the Reject measurements incorrect and, in its Performance Acceptance Certificate for AZIWO1202, refers the question of whether these LSRs with a proper FOC after an incorrect Reject should be counted in the FOC measurements or in the Reject measurements to the TAG for further PID clarification.

Qwest responded that 4 PONs were associated with cancel supplemental LSRs and no FOCs were sent. CGE&Y has verified that the FOC notification it received indicated that the order was being cancelled. Qwest responded that for 5 PONs, IMA shows a record of the FOC being generated, and CRM does not show corresponding information. According to Qwest, this situation was identified this summer and underwent an effort to get the databases back in sync and made system corrections. Qwest notes that these 5 PONs occurred prior to the fix dates. CGE&Y finds that due to the low numbers of this type of problem, and Qwest's assertion that it has been monitoring the situation and is not aware of any re-occurrences that this fix does not need to be retested.

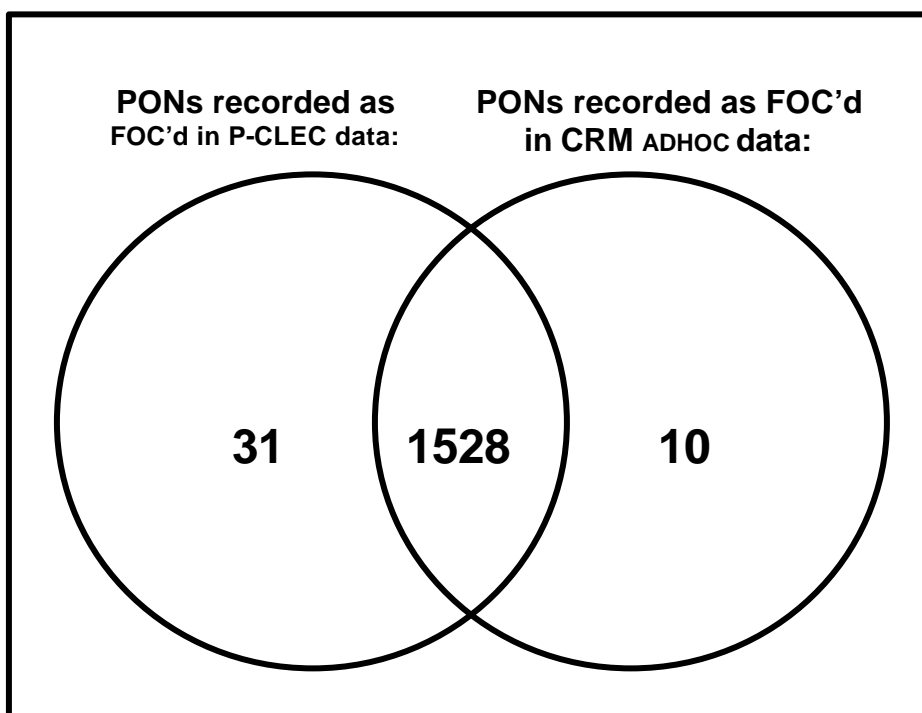
Qwest also provided the following explanation as to why 2 FOCs were not included in CRM:

“Two PONs received a supplemental request before the original request was processed. When a supplement is received on a PON, the original LSR is placed in an inactive status and CRM expects to receive status updates on the supplemental request. The centers incorrectly issued the FOC against the original LSR instead of sending the FOC on the Supplemental request. When this happens, CRM does not recognize the FOC being issued on the original request, therefore, not showing the FOC in the CRM ad-hoc report. The incorrect FOCs have been addressed in subsequent training/issuance of MCCs.”

CGE&Y accepts Qwest's explanation for the omission of these 2 FOCs from CRM. Moreover, CGE&Y finds Qwest's proposed fix sufficient and that due to the low number of occurrences of this problem retesting is not required. However, due to the first issue of the 24 incorrectly rejected LSRs being inadvertently excluded from the PO-5 PID measurement, AZIWO1202 was closed pending TAG discussions on the measure.

CGE&Y issued AZIWO1203 because CRM included 10 PONs for which FOCs were issued that did not appear in the Pseudo-CLEC data as a FOC. CGE&Y found that the Pseudo-CLEC's email server was down when all four of the IMA/GUI FOCs were purportedly sent. Due to the low incidence of the remaining 6 EDI FOCs not received, CGE&Y has closed AZIWO1203.

These results are summarized in the following diagram:



(b) FOC-level Reconciliation:

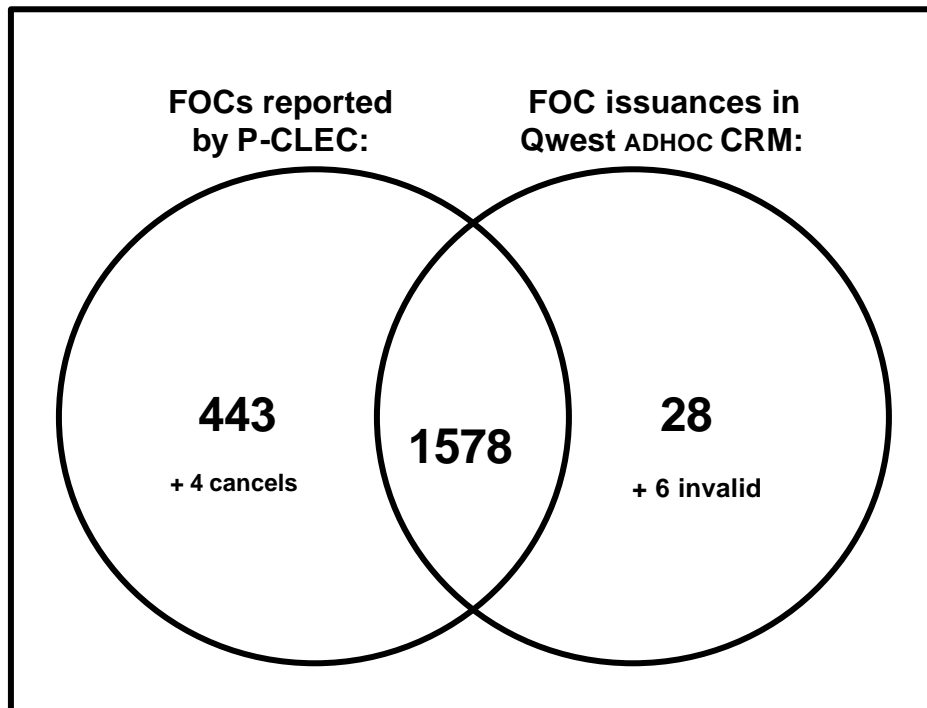
CGE&Y repeatedly attempted to reconcile whether all necessary notifiers had been received. In doing so, CGE&Y requested repeated overlapping shipments of data from the Pseudo-CLEC. This was to ensure that all notifiers received by the Pseudo-CLEC were transmitted to CGE&Y. The resulting duplicate recordings of identical FOCs was entirely an artifact of the process used by CGE&Y and was not due to Qwest. Using the assumption that all FOCs occurring for the same PON within 5 minutes are duplicates, only 2,021 unique FOC transmissions were received.

Qwest's CRM table includes 1,657 FOCs issued to the Pseudo-CLEC during the Functionality Test. Of these, 45 were definite duplicate copies of other records, having identical "Issued FOC" status time for the same PON. This leaves 1612 unique FOCs.

For each CRM FOC, the Pseudo-CLEC received FOC with the same PON closest in time on the same day was identified. There were 1539 CRM FOCs found within 5 minutes of the nearest Pseudo-CLEC FOC. An additional 6 were found between 57 and 63 minutes from the nearest Pseudo-CLEC received FOC. These were considered to be matches with an error due to Daylight Savings Time (DST) recording. An additional 22 CRM FOCs matched on PON but not on the same day. Another 39 CRM FOCs did not initially have a matching PON in the Pseudo-CLEC data. Upon subsequent research, it was determined that 29 of these were due to misrecording of the PON by the Pseudo-CLEC, and these did match on time. (The remaining 10 were previously reported in AZIWO1203). IWO ASIWO1203 was closed.

The number of FOCs common to both CRM and Pseudo-CLEC data was 1,578. Of the 1,612 CRM FOCs, 34 were not in the Pseudo-CLEC data. Of the 2,021 Pseudo-CLEC FOCs, 443 were not in the adhoc CRM data.

These results are summarized in the following diagram:



The results then appear to indicate a substantial discrepancy between FOCs reported by the Pseudo-CLEC and by Qwest, in that at least 23 percent (447 out of 2,021) of the FOCs reported by the Pseudo-CLEC are not in CRM. However, this result is primarily due to Qwest's transmission of multiple FOCs for a LSR that are not all valid FOCs for measurement calculation purposes, i.e., "Chatter FOCs." See AZIWO2115 for example, which was retested. Qwest excluded these FOCs from its CRM table; however, the Pseudo-CLEC did not.

In comparing the results of the PON-level and the FOC-level reconciliation's, CGE&Y found that the reduction in FOC discrepancies from 443 in the FOC-level reconciliation to 31 in the PON-level reconciliation demonstrates that the vast majority of FOCs received by the Pseudo-CLEC that were not recorded in CRM were "Chatter FOCs." These 31 PONs were associated with 34 different FOCs in the Pseudo-CLEC data and are included in 443 FOCs that did not match CRM in the FOC-level reconciliation. For these 34 FOCs, there must be at least one FOC for each of the 31 PONs that is not a Chatter FOC. Each of the 31 PONs found in the Pseudo-CLEC data that did not match CRM in the PON-level reconciliation had one FOC which was not a Chatter FOC. The increase from 10 PONs reported in CRM that were not found in the Pseudo-CLEC data in the PON-level reconciliation to the 46 CRM FOCs that were not found in the Pseudo-CLEC data in the FOC-level reconciliation, indicates that there were a corresponding 34 FOCs in the Pseudo-CLEC that were not Chatter FOCs. Thus 65 (31+34) of the 443 FOCs in the Pseudo-CLEC data did not match CRM and are not Chatter FOCs. Therefore, CGE&Y estimates that the number of "Chatter FOCs" is 378 (443 – 65). CGE&Y submitted 443 Chatter FOC candidates as a supplement to AZIWO2115.

Of the 65 FOCs in the Pseudo-CLEC data determined not to be Chatter FOCs, 31 were not included in CRM (as noted previously in AZIWO1202). For the remaining 34 FOCs, CRM included FOCs for the same PONs but the reported FOC time in CRM differed by more than 5 minutes from when the FOC was received by the Pseudo-CLEC. In 10 cases no FOC for the PON was received by the Pseudo-CLEC at all (AZIWO1203 in the PON-reconciliation above). In 18 of these cases the CRM FOC was on a different day than the nearest Pseudo-CLEC FOC, in 6 cases they were on the same day, but differed in time by more than 5 minutes and an amount not near a 1 hr DST correction. These 34 FOCs received by the Pseudo-CLEC nearest to the CRM-recorded issuance are the subject of AZIWO1204, which is concerned with why CRM does not contain a record of issuing a FOC within 5 minutes of when the Pseudo-CLEC received one.

CGE&Y submitted AZIWO1205 regarding the 34 FOC issuances recorded in CRM for which no FOCs were received by the Pseudo-CLEC within 5 minutes of the CRM FOC issuance time for that PON. . Here the concern is why the Pseudo-CLEC did not receive a FOC within 5 minutes of when one was issued by Qwest as recorded in CRM.

While AZIOW1204 and AZIWO1205 are based on the same matching discrepancy, they are both needed to allow for the possibility that the closest Pseudo-CLEC received FOC may be a different FOC-event from the CRM-issued FOC. In this case, AZIWO1204 is concerned with why the Pseudo-CLEC received FOC is not recorded in CRM, and AZIWO1205 is concerned with why the “official” FOC was not received by the Pseudo-CLEC.

In response to these IWOs, Qwest has acknowledged that the FOC date and time recorded in CRM for 5 of the LSRs was incorrect, and that one of the CRM records was incorrect as no FOC was sent. There were 15 FOCs not received by the Pseudo-CLEC, the majority of these in January, when the Pseudo-CLEC experienced mail server problems. Ten EDI FOCs were received within a few hours or early the next morning. The delays in receiving these FOCs are considered due to EDI gateway or router outages. Three FOCs were recorded as being received about 5 weeks after they were sent. CGE&Y considers that the FOC received date is recorded based on a resend of a previously sent FOC. (Twelve FOCs initially included in this IWO were actually received by the Pseudo-CLEC but filtered out of the data sent to CGE&Y due to an invalid tracking number). Due to the low incidence of these problems and Qwest’s efforts to fix them, CGE&Y has closed AZIWO1204 and AZIWO1205.

In conclusion, ignoring Chatter FOCs, 96.0% of FOCs received by the Pseudo-CLEC (1578 / (65+1578)) were included in CRM as issued within five minutes of the time received by the Pseudo-CLEC or with an otherwise explainable delay; 98.3% of valid CRM FOC issuances (1578 / 1606) were received by the Pseudo-CLEC within five minutes of the time the FOC-issuance was indicated in CRM or with an otherwise explainable delay. As described in detail above, most of the remaining discrepancies are either due to email server outages, EDI outages, occasional manual errors on Qwest’s part regarding which Qwest has instituted process improvements to prevent these from reoccurring, and a PID interpretation issue whose resolution is left to the TAG. CGE&Y therefore finds that Qwest’s adhoc CRM data relating to FOCs can be relied on going forward for §271 performance measurement data processing based on Qwest’s current PID interpretation.

2.4 Jeopardies

2.4.1 Introduction

The jeopardy data reconciliation compared jeopardy notifications provided by Qwest to the Pseudo-CLEC with Qwest’s adhoc jeopardy table to determine whether: (1) jeopardy notifications to the Pseudo-CLEC were provided for orders which Qwest considered to be jeopardies, and (2) jeopardy notifications provided by Qwest to the Pseudo-CLEC were included as jeopardies in Qwest’s data processing for §271 measurement reporting.

2.4.2 Process

The Qwest adhoc jeopardy files for each month from December 2000 through August 2001 were combined and restricted to Pseudo-CLEC records only. The Qwest adhoc jeopardy file, by design, contained a record for each completed order for which the commitment was missed and/or for which a jeopardy notification was provided. Since many of these records were for missed commitments where no jeopardy notification was provided, these were eliminated, producing a table of adhoc jeopardies⁶⁸.

A table was built of all notifications received by the Pseudo-CLEC which were indicated to have a jeopardy transaction type. In addition, status update transactions with an order status indicating a jeopardy were also considered as jeopardy notifications provided to the Pseudo-CLEC. This list of jeopardy notifications was matched against all LSRs receiving SOCs, to restrict consideration to only those jeopardy notifications received by the Pseudo-CLEC which were on orders for which the Pseudo-CLEC received completion notification.

As the adhoc jeopardy table is based on order number, and the Pseudo-CLEC data are based on PON, a table was built containing all order numbers known to be generated from each LSR to enable matching of the two data sets.

2.4.3 Results

The Qwest adhoc jeopardy file contained 17 jeopardies on orders registered in RSOR as completed. PONs were found for 17 of the orders. Two of these were associated with non-Functionality Test PONs and were excluded from this reconciliation. No jeopardy notification was sent for one of these orders. In its response to AZIWO1039, Qwest explained that this order was included in RTT due to an internal tracking of a condition that did not require a jeopardy.

Among the Pseudo-CLEC data, there were 20 unique LSRs which received jeopardy notifications. There were 3 additional orders which received status updates with an order status of “Jeopardy”, “JEPC 01 DD” and “JEPC 03 DD.” Eleven of the 23 LSRs received SOCs.

Eleven jeopardies were common to both the adhoc data and the jeopardy notifications identified by the Pseudo-CLEC. Six jeopardies in Qwest’s adhoc data were not identified in the Pseudo-CLEC data. Of these, five were PO-8 eligible and one was PO-9 eligible.

Five jeopardy notifications received by the Pseudo-CLEC were not included in Qwest’s adhoc jeopardy file; all were Functionality Test PONs. These exhibited the following event descriptions and error messages:

- No Access

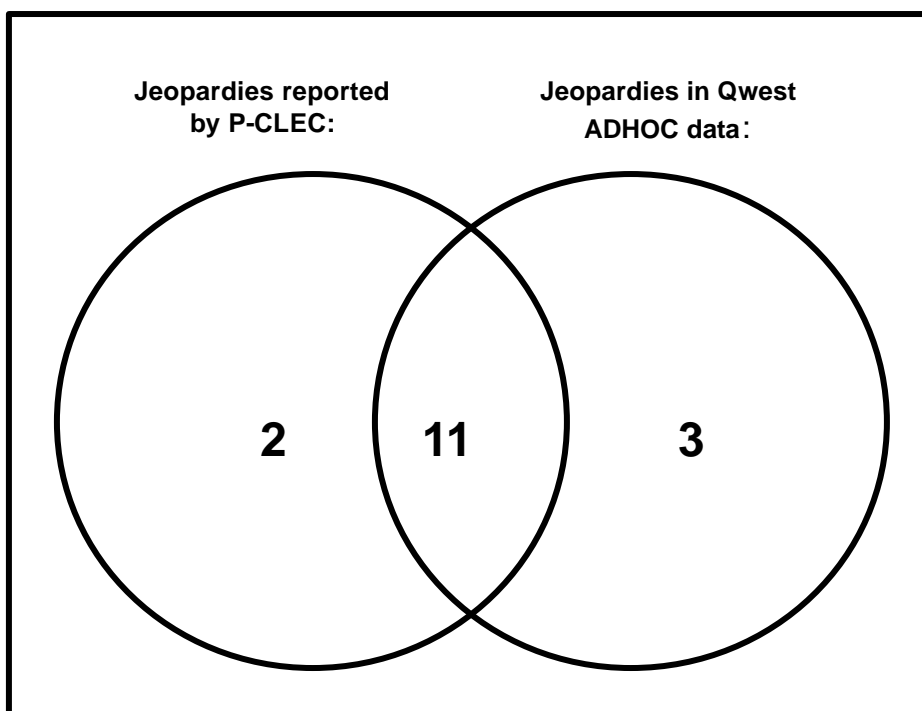
⁶⁸ CGE&Y Archive File: Data Reconciliation Report #2 – hpc_adh_jeop1221_0801

- Due date change for F1 facilities construction
- Construction Job in Progress

These results are summarized in the following diagram:

Of the 14 jeopardies received by the Pseudo-CLEC, 5 were not present in Qwest's adhoc data and were thus not considered by Qwest in their performance measurement data processing. That they were not was the subject of AZIWO1199. Qwest responded, indicating that jeopardies due to a Customer-Not-Ready condition would not be included in Qwest's Regional Tracking Tool and hence may or may not appear in Qwest's adhoc jeopardy table, depending on whether the due date was missed. This is not of concern, as records of jeopardies due to Customer-Not-Ready conditions are excluded from the jeopardy measures. This satisfactorily explains 3 of the 5 jeopardies not included (as jeopardies) in the adhoc jeopardies table. For one of the two remaining jeopardies, CGE&Y finds the reason for missing the original due date that caused the jeopardy was not attributable to Customer-Not-Ready. For the remaining jeopardy, Qwest responded that a manual error was responsible for mistakenly keeping the jeopardy out of RTT. Qwest indicated it is taking measures to improve the process which allowed for "improper format of notations" which led to this error. Based on this information AZIWO1199 was closed.

In addition, for 5 of the 14 jeopardies in Qwest's adhoc data, no jeopardy notification was received by the Pseudo-CLEC. This was the topic of AZIWO1039. Qwest explained that due to a manual error, a jeopardy notification was not sent for one of the 5 jeopardies included in the Qwest adhoc data. Qwest augmented its jeopardy notification process on 10/16/01, adding a follow-up step to ensure that jeopardy notifications are sent when the RTT flag has been set. According to Qwest, it is developing a process to automate the transmittal and recording of jeopardy notifications, and expects this process to be in place by 2Q 2002. The automated process will allow for electronic jeopardy notification via IMA and EDI, therefore eliminating the possibility of error inherent in manual processing. CGE&Y acknowledged that the Pseudo-CLEC received email jeopardy notifications for 2 of the 5 jeopardies in the Qwest adhoc data. This adds 2 to the Pseudo-CLEC total. This leaves 2 jeopardy notifications that Qwest claims to have sent to the Pseudo-CLEC, which claims not to have any record of their receipt. However, Qwest provided copies of the faxed jeopardy notifications, and CGE&Y considers this evidence of provision of jeopardy notification. CGE&Y accepts Qwest's response and finds jeopardy notices are handled correctly. IWO 1039 was closed.



2.5 Rejects

2.5.1 Introduction

The reconciliation of rejects compared rejects identified in Qwest's adhoc CRM data file to rejects found in the Pseudo-CLEC data.

2.5.2 Process

The Qwest adhoc CRM data files for each month from December 2000 through August 2001 were combined and restricted to Pseudo-CLEC rejects only. Auto-rejects were identified as those reject records in CRM that originated from the Business Process Layer (BPL) data. All other rejects in CRM were manual rejects. It was not possible to identify in the Pseudo-CLEC data whether an LSR was rejected manually or automatically. Due to the lack of identifying data for auto-rejects in Qwest's adhoc CRM file, auto-rejects reported by Qwest could not be uniquely matched to rejects in the Pseudo-CLEC data. The only data available in CRM for auto-rejects were Status, CLEC ID, Source, First Status Date (SDATE), Last Status Date (LDATE), Reject Flag, Product Type, and Flow-through. These data fields are sufficient to match individually rejected LSRs. Therefore, nothing other than a count of the auto-reject records was available for analysis⁶⁹.

⁶⁹ CGE&Y Archive File: Data Reconciliation Report #2 – EDI_Extended, hpc_adh_crm_1221_0831a, Org_HPC, parse_rej.

Duplicate rejects in the Pseudo-CLEC data were removed based on the following criteria: rejects with identical PONs and date-time values were considered duplicate rejects.

Manual rejects in Qwest data were matched to Pseudo-CLEC rejects based on PON and the date-time stamp. The same PON can appear multiple times and the date-time value is measured as year, month, day, hour, minute and second. Records that matched exactly on PON were considered a match if the date-time value was within five minutes. This five-minute window allowed for differences in clock setting between the Pseudo-CLEC and Qwest. Pseudo-CLEC identified rejects that did not match Qwest-reported manual rejects were considered auto-rejects, and the count of these was compared with a count of the automated rejects identified in the Qwest CRM file.

2.5.3 Results

After removal of duplicate records from CRM, there remained 310 manual rejects and 2,468 auto-rejects. The Pseudo-CLEC data consisted of 1,747 records with no means of differentiating between manual and auto-rejects.

Of the 310 manual rejects from CRM, 284 were matched to a reject record in the Pseudo-CLEC data. Thus, 26 manual rejects reported in CRM were not also identified in the Pseudo-CLEC data. CGE&Y issued AZIWO1210 detailing these 26 manual rejects not found in Pseudo-CLEC data. It is unknown if any other rejects identified in the Pseudo-CLEC data were rejected manually. Qwest's research indicates that all reject notifications were sent, however, Qwest did not find 9 of these in either its EDI translator or GUI tracking database. CGE&Y performed further research to determine that 7 of these 26 were not related to the Functionality test, and in 6 other cases it seems that a time zone and/or AM/PM recording issue prevented the Pseudo-CLEC and Qwest reject notification records' times from being reasonably close. Of the remaining 13 cases, the Pseudo-CLEC was able to use Qwest's screen shots to determine that they had indeed received 5 of these reject notifications. In one case the Pseudo-CLEC's email server was known to be down due to a move at the time the reject notification was sent. This leaves 7 notifications for manual rejects regarding which Qwest claims to have sent the notification and the Pseudo-CLEC claims not to have any record of its receipt. However, Qwest provided screen shots indicate that Qwest rejected the outstanding seven LSRs and at least scheduled them for immediate notification to the Pseudo-CLEC. CGE&Y considers this evidence close enough to the definition of provision of notification of rejection, and the small number of rejects not actually received can be chalked up to email or other non-Qwest failures.

Each of the remaining 1,463 reject records in the Pseudo-CLEC file was assumed to be associated with one of the auto-reject records in CRM. This left 1005 auto-reject records in CRM (out of 2,468) that are unaccounted for in the Pseudo-CLEC data. Early in the test, the status update indicator was not

provided to the Pseudo-CLEC. Therefore, Pseudo-CLEC data did not include all auto-rejects sent by Qwest, which helps in understanding the large portion of CRM auto-rejects (1005 out of 2468, which equals 40.7%) not found in the Pseudo-CLEC data. When this analysis was performed by restricting to LSRs rejected in May or June, there were 351 auto-rejects in CRM. There were 394 Pseudo-CLEC rejects during the same time period that could not be matched with a manual reject in CRM and were therefore assumed to be auto-rejects. For the two month period, May and June 2001, only 10.9% of the Pseudo-CLEC auto rejects were not accounted for in CRM. The decrease in the magnitude of the discrepancy (from 40.7% to 10.9%) suggests that the bulk of the problem originally detected for auto-rejects was due to the status update indicator not being provided to the Pseudo-CLEC in the earlier part of the test.

2.6 Maintenance and Repair (M&R)

2.6.1 Introduction

The M&R data reconciliation validated whether the trouble tickets received by the Pseudo-CLEC from Qwest were reflected in Qwest's Mechanized Trouble Analysis System (MTAS) and Work Force Administration and Control / Repair (WFAC) data files, and that the Pseudo-CLEC received status update notifications for all troubles identified by Qwest in MTAS and WFAC.

2.6.2 Process

The Qwest adhoc MTAS and WFAC files for each month from December 2000 through August 2001 were combined and restricted to Pseudo-CLEC records only. Pseudo-CLEC M&R data were assembled from the following sources⁷⁰:

- M&R status update e-mails received from Qwest's CEMR system by the Pseudo-CLEC
- CGE&Y log of troubles reported via EB-TA
- CGE&Y log of troubles reported via CEMR
- Pseudo-CLEC log of Incidental Contacts and Issues related to M&R.

For troubles on non-designed services, the M&R data reconciliation validated whether trouble tickets generated by the Pseudo-CLEC as recorded from the above sources matched the troubles reported in MTAS. This matching was based on telephone number. For each matching non-designed trouble involving status update emails, the Trouble Report Receipt date in MTAS was matched against the first trouble report status update time recorded by the Pseudo-CLEC. In addition, the Trouble Report Cleared date in MTAS was matched against the last trouble report status time recorded by the Pseudo-CLEC.

⁷⁰ CGE&Y Archive File: Data Reconciliation Report #2 – parse_mr, hpc_adh_wfac1221_0801, hpc_adh_mtas1221_0801.

For troubles on designed services, the M&R data reconciliation validated whether trouble tickets generated by the Pseudo-CLEC matched the trouble tickets reported in WFAC as recorded from the above sources. For status update emails, Qwest Trouble Report ticket numbers found in the Pseudo-CLEC data were matched with the Repair Ticket Number in WFAC, the Received Date in WFAC was matched against the first trouble status date recorded by the Pseudo-CLEC, and the Closed Date was matched against the last trouble status date recorded by the Pseudo-CLEC. For the other Pseudo-CLEC data sources, matching was performed using the circuit-identifier field.

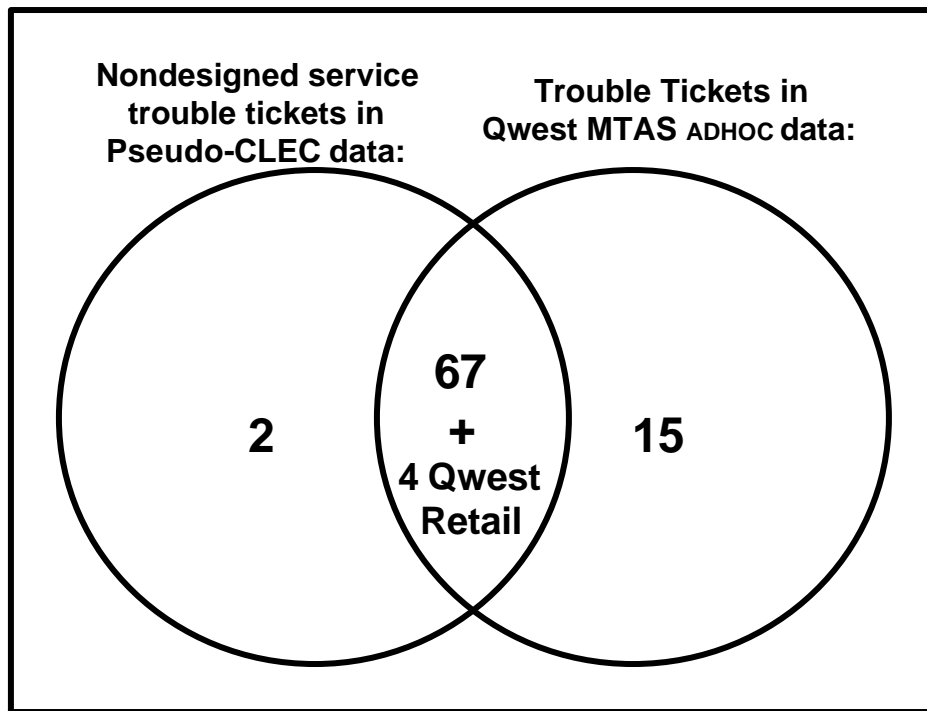
2.6.3 Results

For non-designed services, the MTAS file contained 82 troubles, and there were 73 unique troubles found in the Pseudo-CLEC data sources on services installed for the Pseudo-CLEC during the functionality test. There were 67 troubles common to both data sets. Of the 73 non-designed services trouble tickets identified in the Pseudo-CLEC data, 6 were not found in MTAS. On further investigation four of these were found to actually be present in MTAS, but as Retail tickets. This was the subject of AZIWO1206. Qwest responded that for 3 of these tickets, the repair ticket was opened before LMOS had any record of the accounts being converted to Wholesale. Therefore, CGE&Y finds that it is unreasonable to expect these tickets to be properly classified as Pseudo-CLEC. The remaining ticket was for an account that was never part of the Functionality Test. CGE&Y does not understand why the customer for that account reported a trouble to the Pseudo-CLEC. CGE&Y has closed this IWO.

The other 2 (of 6) not found in MTAS were the subject of AZIWO1207. CGE&Y finds that these 2 situations should have generated a trouble ticket in MTAS, but Qwest acknowledges that no tickets exist.

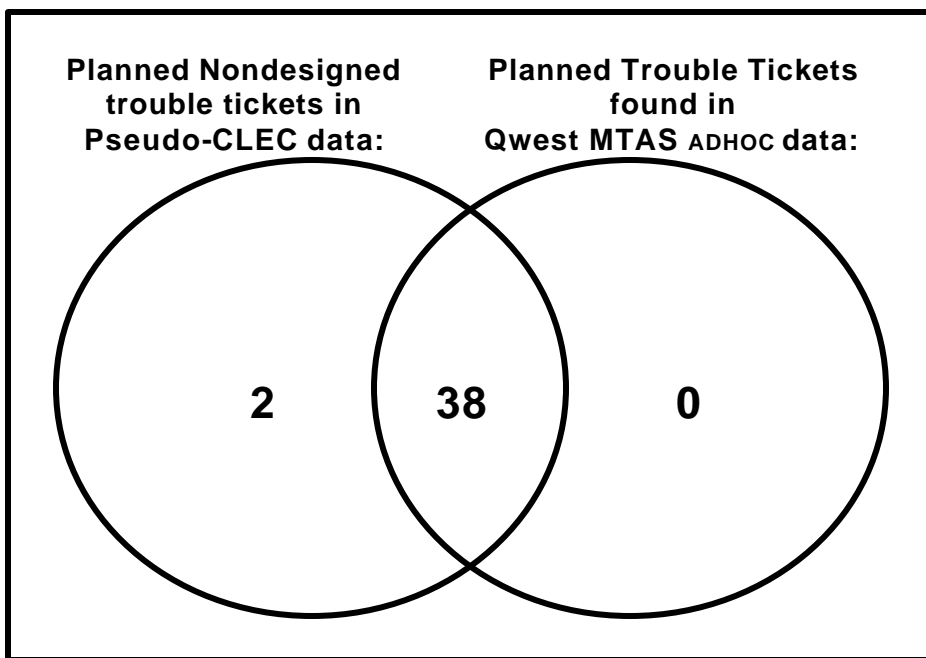
Of the 82 troubles in MTAS, 15 trouble tickets were not identified in the Pseudo-CLEC data. This was the subject of AZIWO1208. Qwest provided evidence that these 15 tickets were valid troubles. CGE&Y accepts Qwest's explanation that trouble tickets for the 7 physical plant disruptions were generated by Qwest. Two troubles were tested and found ok. The remaining 6 tickets were resolved by instructing the end-user or referring the end-user back to the Pseudo-CLEC. Therefore, this IWO has been closed.

These results are summarized in the following diagram for all non-designed troubles:

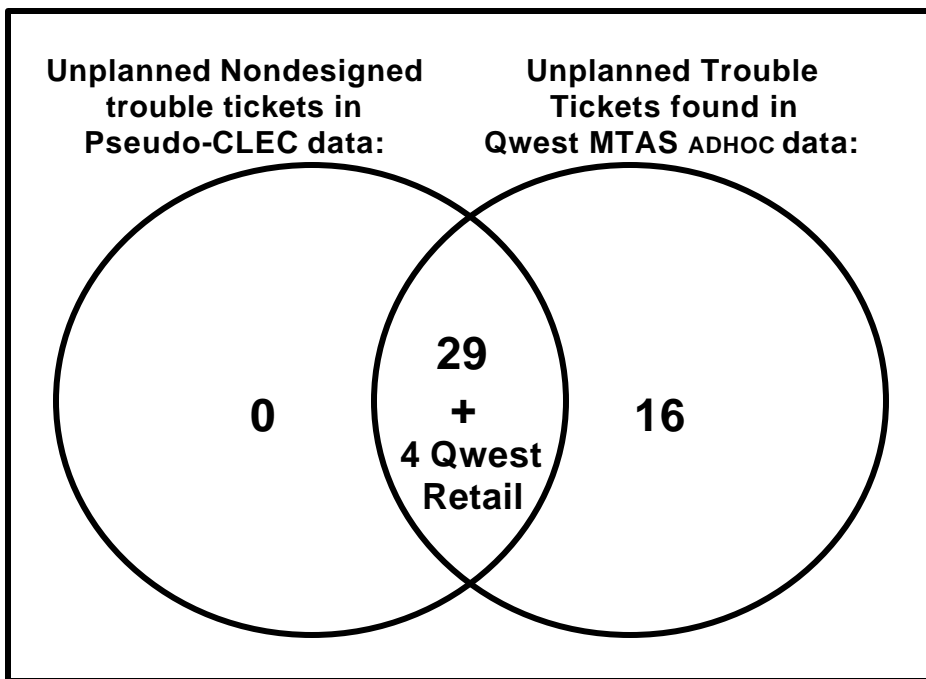


Note: The “4 Qwest Retail Tickets” in the above diagram denotes the 4 Pseudo-CLEC troubles which were found in MTAS but were designated in MTAS as Retail troubles.

Breaking this out by whether troubles are planned or unplanned can only be done from the Pseudo-CLEC data, so all MTAS troubles not found in the Pseudo-CLEC data are assumed to be unplanned. This leads to the following diagram for planned troubles:



The following diagram illustrates the results for unplanned non-designed service trouble tickets:



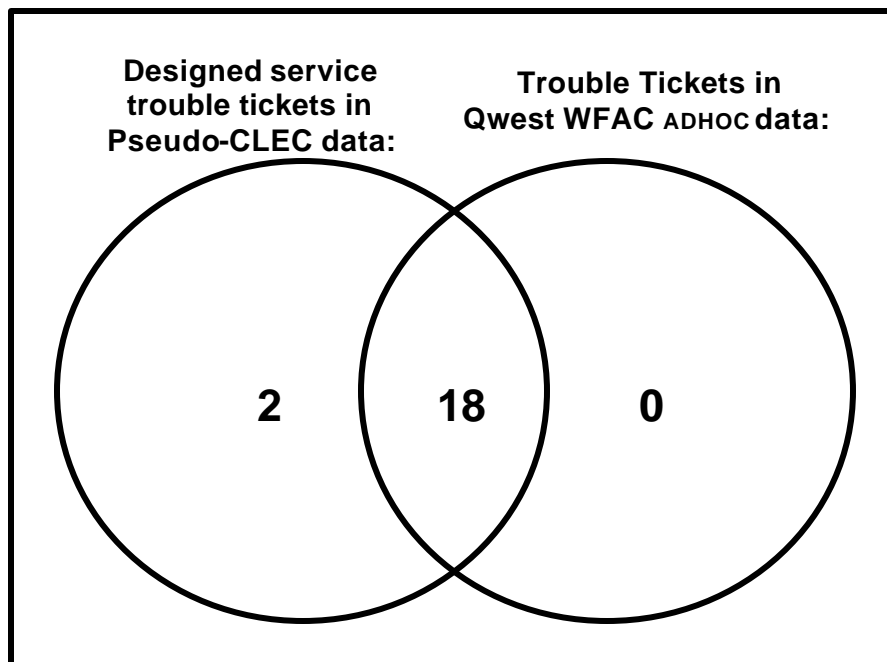
Note: The “4 Qwest Retail Tickets” in the above diagram denotes the 4 Pseudo-CLEC troubles which were found in MTAS but were designated in MTAS as Retail troubles.

The trouble status times in the status update emails provided by Qwest to the Pseudo-CLEC are always seven hours later than corresponding receive and clear times of the troubles in the Qwest MTAS adhoc data files. CGE&Y issued AZIWO1197 on this subject. Qwest responded to the effect that CEMR times are stated in Greenwich Mean Time, whereas MTAS times are in local time. CGE&Y verified that this was properly covered in Qwest documentation and withdrew this IWO.

Status update emails for four non-designed trouble tickets were provided on July 20, 2001. However, these tickets were closed according to MTAS on June 4, 5, 22, and 23, 2001. As a result of these late status updates, CGE&Y issued AZIWO1050. Qwest responded saying that these were diagnosed in July to be due to intermittent failures in the communications network linking CEMR and the host repair application. Qwest indicated that this problem has been repaired and has also implemented an automated procedure to correct out-of-sync statuses within two hours of occurrence. CGE&Y performed a retest and results indicated that Qwest's systems properly closed all MTAS trouble tickets in the retest.

For designed services, the WFAC file contained 18 troubles, and 20 troubles were found in the Pseudo-CLEC data. There were 18 troubles common to both data sets including all 18 troubles in WFAC. Of the 20 designed services trouble tickets identified in the Pseudo-CLEC data, 2 were not found in WFAC.

These results are summarized in the following diagram:



The two Pseudo-CLEC troubles not included in WFAC were the subject of AZIWO1209. In response to DR-244 which asked why a trouble was not in WFAC, Qwest stated that “When a trouble ticket is opened and there is a pending disconnect order, as soon as the due date is completed, all evidence of the trouble ticket is gone from WFAC. The trouble ticket would be canceled because it could not be completed.” The series of status update emails received for this circuit do indicate that there was a pending disconnect order on the circuit when this ticket was opened. The remaining contact was for a circuit which was about to be disconnected. Previous responses from Qwest have indicated that troubles with pending disconnects will not be included in MTAS and WFAC. Based on the above considerations, CGE&Y has withdrawn AZIWO1209 as all troubles on circuits in the Pseudo-CLEC data (other than on pending disconnects) were included in WFAC.

2.7 Gateway Availability

2.7.1 Introduction

The gateway availability data reconciliation validated whether all Pseudo-CLEC-observed gateway outages were accounted for in the total gateway outage downtime reported by Qwest. The Pseudo-CLEC did not experience all gateway outages, and therefore, a complete validation of the total gateway outages was not possible.

2.7.2 Process

The Pseudo-CLEC captured the following information relating to all gateway outages that it experienced:

- ◆ Date of the Outage
- ◆ Up Time
- ◆ Down Time
- ◆ Duration of the Outage
- ◆ Media Type
- ◆ Responsible for Outage (Qwest or Pseudo-CLEC)

Total Pseudo-CLEC-observed down times for each month were calculated by adding all observed Qwest-caused outages during the month. Qwest-reported down times are calculated from Qwest’s raw data by adding outages on Fetch ‘N Stuff Data Arbiter systems to the interface outages (GUI or EDI).⁷¹

2.7.3 Results

The following table displays the comparison between the Pseudo-CLEC-observed downtimes and the downtimes reported by Qwest for the IMA-Graphical User Interface (GUI) interface (which also includes outages for Fetch

⁶ CGE&Y Archive File: Data Reconciliation Report #2 – Gateway_Qwest Down Times and Gateway_Pseudo-CLEC Down Times.

'N Stuff and Data Arbiter, as these would be indistinguishable from GUI outages to a CLEC):

GA-1 - Gateway Availability - IMA-GUI (in min)		
Month	Downtime reported by the Pseudo-CLEC	Downtime reported by Qwest
Jan-01	92	15
Feb-01	187	0
Mar-01	>50	35
Apr-01	145	116
May-01	0	172
Jun-01	0	0

As illustrated in the above table, the Pseudo-CLEC reported more than fifty minutes of downtime in March. Four outages were recorded during this period for which two were intermittent, and therefore no "end of outage time" was recorded. The other two outages totaled fifty minutes of downtime.

Down times which the Pseudo-CLEC observed on the IMA-GUI determined to be attributed to Qwest exceeded the down times reported by Qwest during the months of January, February, March and April; therefore, AZIWO1198 was issued.

In response to this IWO, the evidence provided by Qwest supports that its procedures for documenting gateway outages is in compliance with the PID. Several of the outages found would count towards GA-1 under Qwest's current interpretation of the definition of "outage" for GA-1 in place since August. However, under the prior interpretation of the definition of "outage," they were excluded. This IWO has therefore been closed.

The following table displays the comparison between the Pseudo-CLEC-observed down times and the down times reported by Qwest for the IMA-EDI interface (which also includes outages for Fetch 'N Stuff and Data Arbiter as these would be indistinguishable from EDI outages to a CLEC):

GA-2 - Gateway Availability - IMA-EDI (in min)		
Month	Down Time reported by the Pseudo-CLEC	Down Time reported by Qwest
Jan-01	0	205
Feb-01	0	751
Mar-01	0	30
Apr-01	0	159
May-01	0	250
Jun-01	0	0

There were no Qwest-caused gateway outages for the IMA-EDI interface observed by the Pseudo-CLEC.

2.8 Billing

2.8.1 Introduction

The billing data reconciliation process compared Qwest adhoc billing data to the information contained in the electronic CRIS bills received by the Pseudo-CLEC.

2.8.2 Process

The billing data reconciliation required that all the CRIS bills be sent to the Pseudo-CLEC. In addition, the Daily Usage Files (DUF) received from Qwest were collected. Qwest adhoc data consisted of four separate data files, one for each billing performance measure. CGE&Y performed a separate reconciliation of each adhoc data file with Pseudo-CLEC captured data⁷².

The reconciliation of Qwest adhoc billing data for Performance Measure BI-1A with Pseudo-CLEC captured data attempted to compare the average time to provide usage records as calculated from Qwest adhoc data and Pseudo-CLEC captured data. CGE&Y constructed a table detailing all usage records transmitted to the Pseudo-CLEC by Qwest. In addition, CGE&Y constructed a data set of all Qwest adhoc data for BI-1A for the period January through June 2001.

The reconciliation of Qwest adhoc billing data for Performance Measure BI-2 with Pseudo-CLEC captured data compared the date that the Qwest adhoc data indicated the CRIS bill was sent with the date the CRIS bill was received by the Pseudo-CLEC. CGE&Y constructed a data set of all Qwest adhoc data for BI-2 for the period January through June 2001.

⁷² CGE&Y Archive File: Data Reconciliation Report #2 – hpc_adh_ia1a1221_0601, hpc_adh_iabs1221_0601, hpc_adh_bi3a1221_0601, hpc_adh_cris1221_0601, bi-1_DUF.

The reconciliation of Qwest adhoc billing data for Performance Measure BI-3 with Pseudo-CLEC captured data compared the adjustments made to Pseudo-CLEC bills indicated in the Qwest adhoc data with the adjustments indicated on the CRIS bill. CGE&Y constructed a data set of all Qwest adhoc data for BI-3 for the period January through June 2001.

The reconciliation of Qwest adhoc billing data for Performance Measure BI-4 with Pseudo-CLEC captured data compared the number of recurring and non-recurring charges associated with service order completions that appeared on the next bill as indicated in the Qwest adhoc data with the same figure as indicated in the CRIS bills. CGE&Y constructed a data set of all Qwest adhoc data for BI-4 for the period January through June 2001.

2.8.3 Results

In order to reconcile the Qwest's adhoc billing data, CGE&Y first verified that the Pseudo-CLEC received all electronic CRIS bills for the Functionality Test Period. Initially, results appeared to indicate that the Pseudo-CLEC did not receive all the expected electronic CRIS bills for the Functionality Test. This was detailed in AZIWO1211. However, Qwest responded and the Pseudo-CLEC confirmed that most of these bills were in fact provided. Currently, at issue is the status of 3 electronic CRIS bills which the Pseudo-CLEC maintains were not received (April and May electronic CRIS bills for Resale and the May electronic CRIS bill for UNE-P). However, in its response to AZIWO1211, Qwest provided catalogued dataset names for the 3 bills in question. These file names for the bills are transmitted by the NDM process from the Pseudo-CLEC's server back to Qwest. Therefore, CGE&Y finds that this is evidence that the transmission was successful. Moreover, as the dataset name includes the transmission date in the third portion of the name, CGE&Y finds that this provided confirmation of the transmission date. IWO AZIWO1211 was closed.

Time to Provide Usage Records

Qwest adhoc data for BI-1A reports for each month the count of usage records for each transmitted interval. In other words, Qwest adhoc details the count of BI-1A eligible usage records transmitted in 1 day, 2 days, 3 days, or any transmitted interval that occurred for the reported month. Pseudo-CLEC data for usage records contains detailed information for each usage record received from Qwest including Record date, DUF date-time, "From Number," and "To Number." Based on the lack of information for individual usage records in Qwest's adhoc data, it was not possible for CGE&Y to verify that each usage record received by the Pseudo-CLEC was included in the Qwest adhoc data. Furthermore, CGE&Y considered a comparison of the distribution intervals for the Pseudo-CLEC data with the distribution of intervals for Qwest adhoc data as

unreliable as CGE&Y could not be assured that the two data sets included the same records.

Invoices Delivered Within 10 Days

Qwest adhoc data for Invoices Delivered within 10 Days (BI-2) reports that 100 percent of invoices were transmitted to the Pseudo-CLEC within 10 days of the bill date for each month January through June 2001. This measure includes only invoices transmitted on the electronic CRIS bills. The Pseudo-CLEC expected to receive an electronic CRIS bill each month for each of its three accounts (UNE-P, Resale, and UNE-L). As all invoices for each account are received together on the same electronic CRIS bill, if the electronic CRIS bill was received on time, all the invoices associated with that bill were received on time. Similarly, if the electronic CRIS bill was not received on time, then all the invoices associated with that bill were considered late. CGE&Y validated that all the invoices included in the February and March electronic CRIS bills received by the Pseudo-CLEC were included in the Qwest adhoc data. Therefore, CGE&Y found that the Qwest adhoc BI-2 data was including all invoices properly. The following table details the count of invoices for each bill:

Table 2.8.3.1. Invoice Reconciliation			
Month	Account	Adhoc Invoice Count	CRIS Invoice Count
February	UNE-P	55	55
	Resale	371	371
	UNE-L	2	2
March	UNE-P	84	84
	Resale	482	482
	UNE-L	23	23

As explained earlier, each invoice for one bill was received at the same time. Thus, all the invoices in the Qwest adhoc data associated with one bill had the same transmit date. CGE&Y validated that the receipt dates for each electronic CRIS bill matched the bill transmit dates recorded in Qwest's adhoc BI-1A data. A match of dates would validate that all invoices were received as specified, on time or late. Whether the count of invoices matched or not would have only minimal impact on reported results as it is an all or none measurement for each bill. The following table presents the transmission and receipt dates of the electronic CRIS bills:

Table 2.8.3.2. Invoices Transmitted Within 10 Days			
Product	Bill Date	Qwest Transmitted Date (adhoc)	Pseudo-CLEC Received Date
UNE-P	01/19/01	01/24/01	01/24/01
	02/19/01	02/26/01	07/26/01
	03/19/01	03/26/01	03/26/01
	04/19/01	04/25/01	04/25/01
	05/19/01	05/25/01	05/25/01
	06/19/01	06/25/01	06/25/01
Resale	01/25/01	01/31/01	01/31/01
	02/25/01	03/02/01	07/17/01
	03/25/01	04/02/01	04/02/01
	04/25/01	05/02/01	05/02/01
	05/25/01	06/01/01	06/01/01
	06/25/01	07/02/01	07/02/01
UNE-L	01/25/01	01/31/01	01/31/01
	02/25/01	03/02/01	07/17/01
	03/25/01	03/30/01	03/30/01
	04/25/01	04/30/01	04/30/01
	05/25/01	06/01/01	06/01/01
	06/25/01	07/02/01	07/02/01

CGE&Y finds that Qwest's BI-2 adhoc IABs data inaccurately reflected the time to provide February electronic CRIS bills. Qwest verified that the February 2001 UNE-P electronic CRIS bill was sent on July 26, 2001 and the Resale and UNE-L electronic CRIS bills were sent on July 17, 2001. However, the February IABs data indicated that all invoices for the UNE-P account had were transmitted on February 26, 2001 and all invoices for the Resale (520-111-7814) and UNE-L (520-111-7816) accounts were transmitted on March 2, 2001. This discrepancy was the subject of AZIWO1211. Qwest explained that this was due to an NDM failure. As described in its response, "Qwest has modified the transmission procedure to prevent this situation from recurring. The NDM processes have been removed from their previous job stream and are now governed by "Control M" (the automated job controller). Under the new procedure, the RACF authority level of the engineer submitting the job has no effect on the transmission." Qwest has modified its procedures for re-transmitting bills based on receipt of a failed transmission system notice rather than its prior process of only re-transmitting after notified by the customer. Electronic CRIS Bills for subsequent months were delivered on time. Therefore, CGE&Y closed AZIWO1211. CGE&Y amended the performance results presented in the Final Functionality Report to reflect the actual transmission dates for the February UNE-P, Resale, and UNE-L electronic CRIS bills.

Billing Accuracy

Qwest adhoc data for Billing Accuracy (BI-3) contained 9 adjustments to Pseudo-CLEC bills during the Functionality Test for a total credit of \$89.16.

CGE&Y identified 6 of the 9 adjustments in the combined CRIS bill for April and May. These 6 credit adjustments totaled \$17.66. The remaining 3 adjustments were not in the CRIS bills provided to the Pseudo-CLEC. According to the Qwest adhoc data, these 3 credit adjustments totaled \$71.50, all for the same account and appeared on the May Resale Bill. CGE&Y issued AZIWO1213 detailing the 3 adjustments not identified in the CRIS bill. In its response to this IWO, Qwest indicated that the service order establishing this account erred, causing the GRP and BAPC FIDs to be incorrectly removed from the order. As a result, this account was established as a stand alone bill, not billing to the summary bill which CGE&Y checked. However, the adjustments did apply to the May 25, 2001 bill but because this account was not associated with a summary arrangement, these adjustments did not appear on the summary bill. Qwest issued a service order to correct this account in August by adding the GRP FIDs and BAPC FID. CGE&Y accepted Qwest's proposed solution to issue an MCC to reinforce the need to include these FIDs on service orders and closed this IWO.

Billing Completeness

Qwest adhoc data for Billing Completeness (BI-4) contained 1,230 recurring or non-recurring charges associated with completed service orders. 10 of these 1,230 did not appear on the correct bill during the period February through June 2001 (Qwest adhoc data for January was not available). There was no identifying information for these charges in the adhoc data. Therefore, only counts are available for comparison purposes. CGE&Y found that 70 out of 1,476 charges associated with completed services orders on the CRIS bills did not appear on the correct bill during the same time period. CGE&Y issued AZIWO1214 on this subject. Qwest responded that CGE&Y was not correctly calculating the bill completeness and was counting rate change activity as delayed order activity, which are not part of BI-4A, in its analysis. Qwest determined that excluding these accounts lowered the count of 'late orders' to about 38. However, Qwest acknowledged that its programming to calculate BI-4A was using a data source whose aging schedule may not perfectly align with a 30-day bill cycle. Qwest provided corrected historical adhoc data for November 2001. CGE&Y analyzed Pseudo-CLEC received electronic CRIS bills for November and found 19 late orders versus 6 late orders included in Qwest's corrected adhoc data. Qwest responded that based on its research for this IWO, it "revised the files delivered from MCAS to PANS and ultimately Regulatory Reporting to include the service order (SO) number, completed date, and account ID to allow for more complete data reconciliation in the future." Qwest also indicated that the code utilized to extract data from CRIS to MCAS was inadvertently calculating to the received date instead of the completed date on completed service orders. Thus, Qwest now adjusted its results to report 10 late orders for November. Of the late 19 orders identified by CGE&Y, 8 were included in Qwest's adhoc as late orders. An additional 2 that CGE&Y did not identify were also included in Qwest's adhoc as late orders. Qwest explained

that the remaining 11 orders identified by CGE&Y as late were billed on time. Qwest explained that CGE&Y was not correctly identifying late orders, as CGE&Y was using the “in service date” instead of the service order completion date, and that it is possible for an order to be in service in prior months and not complete until later. The service order completion date in Qwest’s systems was not available to the Pseudo-CLEC. Therefore, CGE&Y could not perform the reconciliation and closed this IWO.

Appendix M – Source Documents for Systems Scalability and Staff Scalability

The following table contains the documents provided by Qwest and reviewed by CGE&Y as part of the Systems Scalability and Staff Scalability reviews.

Document Title	Source	Date Updated
Comprehensive Mainframe Planning Process	Hard Copy	October 20, 1997
Capacity Analysis Mediated Access	Hard Copy	April 1, 1997
Major Outage Process 9/99 Update	Hard Copy	September 22, 2000
Wholesale CLEC/Forecast/Projections	Hard Copy	September 22, 2000
USWEST Disaster Recovery Plan	Hard Copy	December 6, 1999
Wholesale Markets Business Continuity Disaster Recovery Plan	Hard Copy	June 9, 2000
Service Delivery Training and Development	Hard Copy	June 7, 2000
Interconnect and Integrated Wholesale Service Center Resource Forecasting Process and Procedure/Wholesale Billing Center Staffing Procedure	Hard Copy	September 27, 2001
AMT SWAT Process	Hard Copy	October 10, 2001
Interconnect Mediated Access (IMA) Scalability Process	Hard Copy	April 26, 2001

Appendix N – 12-Month Test PO-5 Results

100% of the LSRs that received a FOC during the execution of the 8/10 System Capacity Test, received the FOC within 20 minutes.

STATE	Prod Type	Media	NUMERATOR	DENOMINATOR	RESULT	STD DEV
AZ	LNP	IMA	114	114	100%	0
CO	LNP	IMA	118	118	100%	0
MN	LNP	IMA	49	49	100%	0
ND	LNP	IMA	19	19	100%	0
OR	LNP	IMA	20	20	100%	0
UT	LNP	IMA	86	86	100%	0
WA	LNP	IMA	16	16	100%	0
AZ	UNE	IMA	24	24	100%	0
CO	UNE	IMA	10	10	100%	0
IA	UNE	IMA	3	3	100%	0
ID	UNE	IMA	6	6	100%	0
MN	UNE	IMA	10	10	100%	0
MT	UNE	IMA	8	8	100%	0
ND	UNE	IMA	1	1	100%	0
NE	UNE	IMA	11	11	100%	0
NM	UNE	IMA	7	7	100%	0
OR	UNE	IMA	1	1	100%	0
SD	UNE	IMA	1	1	100%	0
UT	UNE	IMA	18	18	100%	0
WA	UNE	IMA	14	14	100%	0
AZ	Resale	IMA	14	14	100%	0
CO	Resale	IMA	10	10	100%	0
IA	Resale	IMA	5	5	100%	0
ID	Resale	IMA	5	5	100%	0
MN	Resale	IMA	20	20	100%	0
MT	Resale	IMA	16	16	100%	0
NE	Resale	IMA	11	11	100%	0
UT	Resale	IMA	20	20	100%	0
AZ	LNP	EDI	124	124	100%	0
CO	LNP	EDI	499	499	100%	0
IA	LNP	EDI	82	82	100%	0
ID	LNP	EDI	33	33	100%	0
MN	LNP	EDI	342	342	100%	0
MT	LNP	EDI	62	62	100%	0
ND	LNP	EDI	56	56	100%	0
NE	LNP	EDI	70	70	100%	0
NM	LNP	EDI	80	80	100%	0
OR	LNP	EDI	24	24	100%	0
SD	LNP	EDI	53	53	100%	0
UT	LNP	EDI	350	350	100%	0
WA	LNP	EDI	660	660	100%	0
WY	LNP	EDI	13	13	100%	0
AZ	UNE	EDI	50	50	100%	0
CO	UNE	EDI	151	151	100%	0

100% of the LSRs that received a FOC during the execution of the 8/10 System Capacity Test, received the FOC within 20 minutes.

STATE	Prod Type	Media	NUMERATOR	DENOMINATOR	RESULT	STD DEV
IA	UNE	EDI	32	32	100%	0
ID	UNE	EDI	18	18	100%	0
MN	UNE	EDI	91	91	100%	0
MT	UNE	EDI	28	28	100%	0
ND	UNE	EDI	26	26	100%	0
NE	UNE	EDI	17	17	100%	0
NM	UNE	EDI	14	14	100%	0
OR	UNE	EDI	27	27	100%	0
SD	UNE	EDI	3	3	100%	0
UT	UNE	EDI	82	82	100%	0
WA	UNE	EDI	138	138	100%	0
AZ	Resale	EDI	28	28	100%	0
CO	Resale	EDI	138	138	100%	0
IA	Resale	EDI	26	26	100%	0
ID	Resale	EDI	13	13	100%	0
MN	Resale	EDI	86	86	100%	0
MT	Resale	EDI	19	19	100%	0
ND	Resale	EDI	37	37	100%	0
NE	Resale	EDI	19	19	100%	0
NM	Resale	EDI	28	28	100%	0
OR	Resale	EDI	26	26	100%	0
SD	Resale	EDI	21	21	100%	0
UT	Resale	EDI	68	68	100%	0
WA	Resale	EDI	122	122	100%	0
Total			4393	4393	100%	

Appendix O - Stress Test PO-5 Results

100% of the LSRs that received a FOC during the execution of the 8/10 System Capacity Test, received the FOC within 20 minutes.						
STATE	Prod Type	Media	NUMERATOR	DENOMINATOR	RESULT	STD DEV
AZ	LNP	IMA	61	61	100%	0
CO	LNP	IMA	66	66	100%	0
MN	LNP	IMA	30	30	100%	0
ND	LNP	IMA	9	9	100%	0
OR	LNP	IMA	9	9	100%	0
UT	LNP	IMA	37	37	100%	0
WA	LNP	IMA	9	9	100%	0
AZ	UNE	IMA	21	21	100%	0
CO	UNE	IMA	11	11	100%	0
IA	UNE	IMA	3	3	100%	0
ID	UNE	IMA	6	6	100%	0
MN	UNE	IMA	8	8	100%	0
MT	UNE	IMA	8	8	100%	0
ND	UNE	IMA	1	1	100%	0
NE	UNE	IMA	7	7	100%	0
NM	UNE	IMA	7	7	100%	0
OR	UNE	IMA	1	1	100%	0
SD	UNE	IMA	1	1	100%	0
UT	UNE	IMA	17	17	100%	0
WA	UNE	IMA	9	9	100%	0
AZ	Resale	IMA	4	4	100%	0
CO	Resale	IMA	8	8	100%	0
IA	Resale	IMA	2	2	100%	0
ID	Resale	IMA	2	2	100%	0
MN	Resale	IMA	14	14	100%	0
MT	Resale	IMA	8	8	100%	0
NE	Resale	IMA	7	7	100%	0
UT	Resale	IMA	14	14	100%	0
AZ	LNP	EDI	75	75	100%	0
CO	LNP	EDI	281	281	100%	0
IA	LNP	EDI	45	45	100%	0
ID	LNP	EDI	16	16	100%	0
MN	LNP	EDI	189	189	100%	0
MT	LNP	EDI	34	34	100%	0
ND	LNP	EDI	31	31	100%	0
NE	LNP	EDI	37	37	100%	0
NM	LNP	EDI	43	43	100%	0
OR	LNP	EDI	14	14	100%	0
SD	LNP	EDI	26	26	100%	0
UT	LNP	EDI	191	191	100%	0
WA	LNP	EDI	368	368	100%	0

100% of the LSRs that received a FOC during the execution of the 8/10 System Capacity Test, received the FOC within 20 minutes.

STATE	Prod Type	Media	NUMERATOR	DENOMINATOR	RESULT	STD DEV
WY	LNP	EDI	8	8	100%	0
AZ	UNE	EDI	49	49	100%	0
CO	UNE	EDI	116	116	100%	0
IA	UNE	EDI	27	27	100%	0
ID	UNE	EDI	14	14	100%	0
MN	UNE	EDI	87	87	100%	0
MT	UNE	EDI	26	26	100%	0
ND	UNE	EDI	21	21	100%	0
NE	UNE	EDI	14	14	100%	0
NM	UNE	EDI	13	13	100%	0
OR	UNE	EDI	28	28	100%	0
SD	UNE	EDI	3	3	100%	0
UT	UNE	EDI	71	71	100%	0
WA	UNE	EDI	110	110	100%	0
AZ	Resale	EDI	19	19	100%	0
CO	Resale	EDI	84	84	100%	0
IA	Resale	EDI	18	18	100%	0
ID	Resale	EDI	8	8	100%	0
MN	Resale	EDI	59	59	100%	0
MT	Resale	EDI	14	14	100%	0
ND	Resale	EDI	26	26	100%	0
NE	Resale	EDI	13	13	100%	0
NM	Resale	EDI	19	19	100%	0
OR	Resale	EDI	18	18	100%	0
SD	Resale	EDI	15	15	100%	0
UT	Resale	EDI	46	46	100%	0
WA	Resale	EDI	71	71	100%	0
Total			2727	2727	100%	

Appendix P – System Capacity Test Detailed Plan



Cap Gemini Ernst & Young Telecom Media & Networks

July 25, 2001

System Capacity Test Detailed Plan

Prepared For:

Arizona Corporation Commission

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1. Introduction

1.1. Purpose

This document describes the procedural framework for the planning, preparation, execution, reporting and required clean-up efforts prior, during and after the execution of the System Capacity Test component of the Capacity Test for the Arizona 3^d party testing effort. General issues related to ramp-up, interaction and communication among the involved parties, reporting burdens and clean-up and ramp-down activities are presented to ensure that an overall framework is established and agreed upon.

1.2. Scope of the Document

This document describes the procedures that will be employed by the various organizations involved in the performance of the Capacity Test. The main components of this document include:

- Capacity Test Overview
- Roles and Responsibilities
- Test Assumptions
- Test Preparation
- Operational Readiness Test
- Test Execution
- Test Analysis
- Communication between parties before, during and after the test
- Reporting responsibilities of all involved parties
- Cleanup activities associated with the test

2. Roles and Responsibilities

This section outlines the roles and responsibilities of the parties involved during the planning, pretest, test, and post-test stages of the Capacity Test. The parties involved in this test are:

- Qwest
- CGE&Y (Test Administrator)
- Pseudo-CLEC (Test Generator)
- ACC/DCI

2.1. Qwest

Qwest is responsible for the following:

- a) Preparing the Test Accounts to be used for the Capacity Test
- b) Providing the TA with Qwest's LSR volume forecasts
- c) Supporting Pseudo-CLEC's installation of the Qwest IA
- d) Monitoring the IMA-GUI and IMA-EDI Gateways during the Test
- e) Providing the reports specified in the Test Standards Document and The Test Communications Document to the TA
- f) Canceling the LSRs and Service Orders after each Test
- g) Returning reserved Telephone Numbers after each test

2.2. CGE&Y – Test Administrator (TA)

CGE&Y is responsible for the following:

- a) Providing a detailed Test Plan
- b) Designing The Capacity Test and determining order volume mix and arrival rates
- c) Preparing test scripts for the pre-order and order Capacity Tests
- d) Validating Test Accounts
- e) Monitoring Test Execution
- f) Analyzing the results of the Capacity Test
- g) Providing Reports, specified in the Communications Document, to Qwest
- h) Providing Final Report to the ACC

2.3. Pseudo-CLEC – Test Generator (TG)

Pseudo-CLEC is responsible for the following:

- a) Developing a test harness that will generate the order volume, mix, and arrival rates defined by the TA
- b) Updating EDI to conform with EDI Release 7.0 for the products that are in the scope of the capacity test
- c) Updating IMA Logger and Loader to conform with IMA Release 7.0
- d) Developing and testing the multi-server environment
- e) Replacing the Templar Interactive Agent (IA) with the Qwest provided IA

- f) Inputting Test Scripts to the EDI form tool and the IMA loader
- g) Validating Test Scripts
- h) Capturing and logging test information and providing that information to the TA

2.4. ACC/DCI

The ACC and DCI have oversight responsibility for the Capacity test.

3. System Capacity Test Architecture and Interface Overview

To perform the Capacity Test it was necessary to change the Interactive Agent (IA) from the Templar IA to the Qwest IA. In addition, Pseudo-CLEC developed a multi-server environment. This environment will allow the TG to submit the volumes required for the test.

3.1. Pseudo-CLEC Proprietary Notice

The information contained in this section constitutes a trade secret and/or information that are commercial or financial and confidential or privileged, prior to the Report's release by the Arizona Corporation Commission. This restriction does not limit the right to use or disclose this information if obtained from another source without restriction. Hewlett-Packard Consulting makes no warranties, guarantees or commitments to any party with regard to the information disclosed herein.

[The remainder of section 3 has been redacted as confidential]

4. System Capacity Test Assumptions

4.1. General

The general assumptions pertaining to the Capacity Test are:

- a) The Capacity Test will be performed between the hours of 7AM to 6 PM MST (AZ time)
- b) Pseudo-CLEC will generate 85% of the LSRs and Pre-Order transactions via EDI and 15% via GUI
- c) Transactions will approximate the percentages by hour as stated in the tables in APPENDIX E
- d) The Capacity Test will be performed using IMA-EDI version 7.0 and IMA-GUI version 7.0
- e) Test Accounts used for EDI and GUI transactions will be mutually exclusive

4.2. Pre-Order

- a) Pre-Order Transactions will be distributed in the same pattern as the LSRs will be distributed. (See Appendix E)
- b) The same Pre-Order Transactions(e.g. multiple Review CSR transactions) will not be replicated against the same account in intervals of less than 15 minutes
- c) 15% of Conversion Orders will add a line, therefore:
 - For Appointment scheduling, and Facility availability, 15% additional transactions will be added to account for these new lines
 - IRTM transactions will account for the additional TN Reservation transactions for new connects, change orders adding lines and converting orders adding lines.
- d) 70% of UNE orders will generate a Feature Availability transaction

4.3. Order

- a) LSRs will not be replicated against the same account in intervals of less than twenty minutes
- b) Orders will be spread across Product Activity Type in the same percentage as the overall LSR percentage (see Appendix C)Accounts will be distributed in such a way as to provide maximum geographic dispersion and minimum replication
- c) Resale and UNE – P new orders will be entered manually during the Capacity Test to accommodate Release 7 EDI changes that require a TN Reservation and a Appointment Schedule transaction prior to submitting an LSR.

5 System Capacity Test Overview

The System Capacity Test will validate that Qwest's OSS and processes can handle loads equal to or greater than estimated Pre-order and Order volumes projected one year from the date of the running of the Capacity Test (3Q 2002). The test is currently scheduled to be performed in 3Q 2001.

The test will be performed in four phases. The transactions will be entered at the same proportionate rate as the historical transactions, which will be provided by Qwest. That is, if 10% of the current daily load is input from 10AM – 11AM, then 10% of the test load will be input in the same timeframe. Appendix E shows the distribution.

Prior to performing Phase 1 of the Test, an Operational Readiness Test (ORT) will be performed to ensure that implementing the Capacity Test will not adversely affect Qwest's production environment. The ORT will also ensure that the test bed of test accounts to be submitted during the system capacity test are all capable of being processed by Qwest without falling out for manual handling.

Phase 1 test will be performed with volumes that represent the forecast volumes twelve months after the start of the System Capacity Test. Results will be evaluated to determine whether the benchmarks have been met.⁷³ Incident Work Orders (IWOs) will be issued as necessary and in a timely manner. If the benchmarks are met, Phase 4 test (Stress Test) will be performed with volumes that represent the forecast of peak volumes twelve months into the future. If the benchmarks are not met, the Phase 2 test will be performed.

Phase 2 test will be performed with volumes that represent the forecast volumes nine months after the start of the test. Results will be evaluated to determine whether the benchmarks have been met.⁷⁴ IWOs will be issued as necessary and in a timely manner. If the benchmarks are met, the Phase 4 Test will be performed with volumes that represent the forecast of peak volumes nine months into the future. If the benchmarks are not met, the Phase 3 test will be performed.

Phase 3 test will be performed with volumes that represent the forecast volumes six months after the start of the test. Results will be evaluated to determine whether the benchmarks have been met.⁷⁵ IWOs will be issued as necessary and in a timely manner. If the benchmarks are met, Phase 4 test will be performed with volumes that represent the forecast of peak volumes six months into the future. If the benchmarks are not met, Qwest will be provided an opportunity review the results and make system changes before continuing testing. Retesting will be performed if the six-month test is not passed.

Phase 4 is designed to stress Qwest systems and will be performed over a four-hour period. The busy hour volume from the successful Phase 1, 2 or 3 tests will be the base for the Phase 4 test. This volume will be incremented in fifteen-minute intervals until a volume 50% higher than the base volume is reached. This higher volume will be input entered at a sustained rate for two hours. Retesting will be performed if the six-month peak volume test is not passed.

The Capacity Test will focus on the systems and interfaces in Qwest's processing flow up to and including processing into Qwest's service order system. (The service order processor must receive the order for it to cause IMA to provide FOCs.) Evaluation of Qwest systems beyond the service order system is outside the scope of the System Capacity Test.

⁷³ Success criteria for the twelve month volume level are either passing the PO-1 and PO-5a benchmarks or passing the scalability evaluation.

⁷⁴ Success criteria for the nine month volume level are either passing the PO-1 and PO-5a benchmarks or passing the scalability evaluation.

⁷⁵ Success criteria for the six month volume level are either passing the PO-1 and PO-5a benchmarks or passing the scalability evaluation.

The Capacity test is not designed to test manual processes. Therefore, only LSRs, which are eligible for flow-through to the service order system or LSRs containing known errors that will be processed electronically, will be submitted during the test. If any known errors do fall to manual processing, the ISCs have been instructed not to process the errors. Given the extensive efforts during the ORT to ensure that the test accounts only include orders that flow through (with the exception of the LSRs that contain intentional errors), an excessive amount of LSRs that fall to manual processing may result in an IWO being created or may result in the need for retesting.

The test will include:

- Standalone Pre-Order transactions
- Pre-Order transactions associated with LSRs
- LSRs

The LSR volumes have been determined by analyzing current actual data and Qwest forecasts that have been agreed-upon by the parties. The forecast was provided by product type, and non flow-through volumes have been applied to flow-through products.

The Pre-Order volumes will be determined by reviewing the pre-order transactions associated with creating an LSR (See table 5.2.1-1) and calculating the stand-alone transactions from the formula (See Appendix B) Qwest provided to the Capacity sub-committee and presented to the TAG.. Pre-Order volumes are shown in Appendix D.

5.1 Scope

The scope of the System Capacity Test is to evaluate whether the relevant Qwest systems have sufficient capacity to handle the defined workload volumes required to support CLEC pre-order and order activities at the currently defined performance benchmarks. This evaluation will make no finding on Qwest's ability to handle volumes of LSRs that fall to manual processing. The defined workload volumes, as approved by the TAG, was determined by a review of historical data and forecasts to reflect typical operations for one year into the future (3Q 2002). The CTTG will generate necessary quantities of simulated activity for processing via Qwest's GUI and EDI gateways.

Since the intent of the System Capacity Test is to validate the performance capacity of the systems, LSRs that will flow-through to the Qwest Ordering processors, including LSRs that will trigger errors and rejections that can be handled in a mechanized environment, will be used.

The System Capacity Test will be run in Qwest's live production environment. The capacity tests for orders will go through the ordering process until the issuance of a FOC or the order is placed into the proper error queue. Qwest's Maintenance & Repair, Electronic Bonding Interface (EBTA), (CEMR), billing and usage, and CRIS systems are out of scope for the purposes of this test.

Following receipt of FOCs or reports providing information that rejected orders were placed into the proper error queues, the orders are eligible to be cancelled. Any capacity test orders that fall into the error queue will also be cancelled and will not be processed by Qwest's ISCs. This cleanup effort will be done during non-business hours and will not be tracked for the System Capacity Test. As an additional safeguard against provisioning activities being accidentally carried out by Qwest, an extended LSR due date of a maximum of 75 business days in the future will be used for POTS and LNP LSRs. For UNE Loop Orders and UNE Loop with LNP, the extended due date will be a maximum due date of 36 business days into the future. These are the maximum due dates Qwest's business rules will allow LSRs to flow through without special handling.

5.2 Approach

The following sections define the test requirements and detail the overall process for conducting, administering and managing the System Capacity Test as required by the MTP. The test requirements and specification plan for the test will be reviewed with the , TAG prior to conducting the System Capacity Test. To maintain fairness and blindness of the test, Qwest and the CLECs will not know, in advance, the actual dates that the System Capacity Tests will be performed.

5.2.1 Pre-Ordering

The pre-order process functions included within the Capacity Test will include the same activities as the Functionality Test with the exception of the CFA transaction.

The Test Generator will provide pre-ordering volumes sufficient to cover the planned test workload over periods expressed in hours. The total number of queries required for the pre-order tests will be as follows:

Phase	TOTAL EDI		GUI	
Phase 1		20083	17071	3012
Phase 2		10443	8877	1566
Phase 3	7000		5950	1050
Phase 4	*	8422	7159	1263

*Phase 4 volumes will depend upon which previous phase of the test is successful. The above numbers represent the volumes that will be used if the Phase 1 test is successful.

The mix of pre-order queries will be established on the basis of ratios of pre-order to order transactions that will be used in the ordering capacity test. The processing of these queries will follow the same hourly volume patterns as specified for the order tests as defined in Table 5.2.2.-3 in this document. This mix will be selected from the transactions shown below:

- a) CSR
- b) Address Validation
- c) Request for telephone number (TN)
- d) Feature and Service availability
- e) Appointment Scheduler
- f) Facility availability
- g) Loop Qualification
- h) Connect Facility Availability*
- i) Meet Point*
- j) DSL Resale*

* These transactions were developed after the MTP and TSD were developed and will not be included in the System Capacity Test. The volumes associated with these transactions will be added to the FAQ transactions.

The following chart shows the pre-order queries by order type.

Table 5.2.1-1: Pre-Order Query for each System Capacity Test (Local Service Request)

Order Type	Local Service Request – Product-Activity	CSR	Add Val	TN Rqst	Serv Avail	Appt Sched (Dispatch Only)	Facil Avail	Loop Qual
LNP Only	LNP (V)	X	X					
	LNP (Z)	X	X					
UNE Loop with LNP								
	Retail to Loop Conversion (V)	X	X		.70X		.15X	.15X
	Retail to Loop Conversion (Z)	X	X		.70X		.15X	.15X
UNE – Loop								
	Retail to Loop Conversion (V)	X	X		.70X		.15X	.15X
	UNE Loop – New (N)		X				X	X
	UNE Loop – Disconnect (D)	X	X					
Resale								
	Retail to Resale Conversion (W)	X	X					
	Retail to Resale Conversion (V)	X	X	.15X*	X	.15X	.15X	
	Retail to Resale Conversion (Z)	X	X	.15X*	X	.15X	.15X	
	Resale – New (N)		X	X	X	X	X	X
	Resale – Change (C)	X	X	.15X*	X	.15X	.15X	
	Resale – Disconnect (D)	X	X					
UNE-P								
	Retail to UNE-P Conversion (V)	X	X	.15X*	X	.15X	.15X	
	Retail to UNE-P Conversion (Z)	X	X	.15X*	X	.15X	.15X	
	UNE-P – New (N)		X	X	X	X	X	X
	UNE-P – Change (C)	X	X	.15X*	X	.15X	.15X	
	UNE-P – Disconnect (D)	X	X					

Key for Table 5.2. 1-1

	Explanation
X	This Pre-Order transaction will be used for the product type listed in column two. The actual number of iterations is listed in attachment D.
*	IRTM will input the TN Reservation transactions.
.15X	15% of the LSR volume will be the volume used for this transaction.
.70X	70% of the LSR volume will be the volume used for this transaction.

5.2.2 Ordering

For the purpose of this test, the following will apply:

- a) The test will consist primarily of LSRs that are eligible to flow-through to the Qwest Service Order processors. However, LSRs that are expected to cause mechanized error rejects, which do not involve manual processes, and orders that may fall to manual processing, but will not be processed will also be included to test the systems' ability to process rejects within the volume defined and according to the performance measurements.
- b) Non-flow-through order types (i.e. order types that are not eligible to flow through according to Qwest) will not be included (Forecasted non-flow-through volumes will be applied to flow-through volumes). Analysis of Qwest's ability to process volumes of manually handled orders will not be included in this test.
- c) Since the LSRs are to be cancelled before provisioning starts, analysis of provisioning will not be included in the capacity test.
- d) The hourly volumes will be based on the historical patterns Qwest currently supports in its production environment, augmented by the volumes projected by the CLECs for operations in 3Q02.
- e) The CTTG will generate the order volume, mix, and arrival rates defined by the TA
- f) The Test Generator will provide pre-ordering volume sufficient to cover the planned test workload over periods expressed in hours. The total number of transactions required for the order tests will be as follows:

Phase	TOTAL	EDI	GUI
Phase 1	4566	3881	685
Phase 2	2569	2184	385
Phase 3	1722	1464	258
Phase 4*	2072	1761	311

*Phase 4 volumes will depend upon which previous phase of the test is successful. The above numbers represent the volumes that will be used if the Phase 1 test is successful.

Table 5.2.2-2: Core Set of LSRs for System Capacity Test (12 Month Test)

	% of Orders (approximate)	Scenario Types by Product/Activity	% of Orders (approximate)
	% of Orders	Scenario Types by Product/Activity	% of Orders (approximate)
LNP Only	51.08%		
		LNP (V)	13.64%
		LNP (Z)	86.34%
UNE Loop with LNP	5.26%		
		Retail to Loop Conversion (V)	20.67%
		Retail to Loop Conversion (Z)	79.33%
UNE Loop without LNP	24.34%		
		Retail to Loop Conversion (V)	3.70%
		UNE Loop – New (N)	76.94%
		UNE Loop – Disconnect (D)	16.24%
Resale	16.25%		
		Retail to Resale Conversion (W)	6.30%
		Retail to Resale Conversion (V)	2.50%
		Retail to Resale Conversion (Z)	15.10%
		Resale – New (N)	6.30%
		Resale – Change (C)	40.40%
		Resale – Disconnects (D)	29.40%
UNE-P	3.09%		
		Retail to UNEP Conversion (V)	8.8%
		Retail to UNEP Conversion (Z)	15.10%
		UNEP – New (N)	6.30%
		UNEP – Change (C)	40.40%
		UNEP – Disconnects (D)	29.40%
Totals	100.02%	Totals	

The System Capacity Test input mix will have these additional properties:

- a) It must create intentional error conditions that result in rejects in Qwest's IMA -GUI and EDI interfaces. Although a failed transaction requires no manual work in this test, the ordinarily expected occurrence of error/reject messages will be integrated into the test process.
- b) To attain a satisfactory volume of transactions, the mix will contain replications of transactions that will be created by the load generator provided by the TG. For the purpose of the System Capacity Test, Qwest will relax edits to allow duplicate LSRs to be created against the same test account.

5.2.3 System Capacity Test Phase 4 (Stress Test)

The stress volume will be determined as follows. The daily volume from the successful previous phase (Phase 1,2 or 3) will be increased by 50%. The busy hour load (11% of the daily load) will be used as the baseline for the test. The stress test volume will be 150% of the baseline volume.

The first hour of the test will be run using this baseline volume. During the second hour the volume will be increased in fifteen-minute increments until the stress volume is reached. This will be done to observe the impact the increased transactions have on Qwest's systems as the stress volume is approached. During the third and fourth hours the stress volume will be maintained at a constant rate. IRTM TN transaction volumes will be constant at the full stress level for the duration of the Phase 4 test.

Table 5.2.3-1 Stress test volumes (12-Month Test)

Pre-order and Order Stress Volumes	Total Order Volume 3Q2002	Total Pre-Order Volume 3Q2002	Production Order Volume 3Q2001	Production Pre-Order Volume 3Q2001	Incremental Test Order Volume 3Q2001	Production Pre-Order Volume 3Q2001
Daily 3Q2001 Volume	11706		7050		4566	20083
50% Increase to Establish Peak Daily volume					2283	10042
Total Daily Volume					6849	30125
Highest Percent of Orders Sent during One Hour					11.1%	11.1%
Total Peak Hour Volume					760	3344
Hour 1 (Baseline for the Stress Test)					510	2229
Hour 2 (Stress hour volume) sent in the following 15 minute increments					760	760
First 15 minutes (19% of Hour 2 volume)					144	535
Second 15 minutes (22% of Hour 2 volume)					167	736
Third 15 minutes (28% of Hour 2 volume)					213	936
Fourth 15 minutes (31% of Hour 2 volume)					236	1137
Hour 3 (Stress hour volume) sent evenly over the hour					760	3344
Hour 4 (Stress hour volume) sent evenly over the hour					760	3344

5.3 System Capacity Test Performance Measures

The System Capacity Test performance measures identified in the MTP (Appendix B) will be used as the success criteria for the System Capacity Test. These measures, listed in the table below, will be applied to evaluate Qwest's systems' ability to handle the forecasted volume.

The applicable System Capacity Test related Performance Measures are defined in the matrix below. The evaluation column indicates the performance measures for which there will be a parity/benchmark comparison made during the tests.

Table 5.3-1 Performance Measures

Perf Meas. #	Performance Measures	Track	Evaluate	Performance Measurement
PO-1	Average Response Time (to OSS Pre-Order Queries)	Y	Y	See Table 5.3-2
	Transaction Report	Y	N	Diagnostic : Review and determine cause of LSRs that do not generate FOCs
PO-5	FOC Interval	Y	Y	95% within 20 minutes (GUI/EDI fully electronic)

Key for Table 5.3. -1

Term	Definition
Track	Data will be gathered and reported
Evaluate	Data will be evaluated for parity performance or compliance with a benchmark
Y	The measure will be tracked or evaluated as a part of the results
N	The measure will not evaluated as a part of the results

Table 5.3-2 Pre -Order Response Times

Total Response Time:	IMA ¹	EDI
1. Appointment Scheduling	<10 seconds	<10 seconds
2. Service Availability Information	25 seconds	25 seconds
3. Facility Availability	<25 seconds	<25 seconds
4. Street Address Validation	<10 seconds	<10 seconds
5. Customer Service Records	<12.5 seconds	<12.5 seconds
6. Telephone Number	<10 seconds	<10 seconds
7. Loop Qualification	= 20 seconds ²	= 20 seconds ²

Note:

1. CTTG will only track PO-1A part two (Transaction Response times). CGE&Y will add IRTM part one (May/June average as agreed by the Capacity Sub-committee.)
2. Benchmark applies to response time only. Request time and Total time will also be reported.

5.4 Test Mix

When the System Capacity Test execution begins, the activities will be:

- a) The TG will conduct the System Capacity Test according to the detailed test plan
- b) The TA will be on-site at both the TG site and the Qwest site to observe and monitor the test
- c) Any issues or failures resulting from the processing of the scripts will be documented through the Testing Incidents process. See Attachment F.
- d) If the TA believes that there are a significant number of fatal errors, then the test will be aborted and another test will be run after the cause of the errors have been resolved. Such an event will be documented in the Exception/Incident Work Order Process. The TA, Qwest and TG will plan for the necessary load and cancellation transactions to conduct these tests
- e) The TA will validate that the test scripts are completed in the prescribed manner and that all results are recorded.
- f) Following FOC (or rejection) receipt for all test orders, Qwest will cancel those orders. The cancellation orders will be done during non-business hours and will not be tracked as part of the System Capacity Test
- g) The TA will validate the performance measurement calculations using the definition of the performance measures (MTP Appendix B) and the captured test data. Failure to meet the thresholds agreed upon for benchmarks at the six-month level will result in retest. The retest will be handled in accordance with the process defined in Section 7.3.5 of the Test Specifications Document.

5.5 Exit Criteria

For the System Capacity Test to be considered completed, the following exit criteria will need to be satisfied:

- a) The pre-order and order System Capacity Test has been completed according to the plan

- b) All tests against the appropriate performance measurements including associated pre-ordering and ordering benchmarks have been completed
- c) All incidents that were opened in conjunction with the System Capacity Test have been resolved and/or closed
- d) All of the data associated with the System Capacity Test has been captured and retained by the TG
- e) The System Capacity Test evaluation and findings are included in the TA's final report compiled for the ACC
- f) All documentation related to the System Capacity Test is verified as complete by the TA and stored in the master project file
- g) All orders have been cancelled prior to provisioning

6 Activities Prior to the Test

This section provides details of the activities required to prepare for the System Capacity Test for the Arizona 3rd party testing effort.

6.1 Entrance Criteria

Prior to commencement of the System Capacity Test, the following entrance criteria need to be satisfied and will be verified by the Pretest:

- a) CTTG IMA-GUI and EDI transaction generators are operationally certified by Qwest and ready to be tested. This includes the ability of the CTTG to isolate the performance results for the performance measurements identified in Table 5.3-1 during the test.
- b) A production environment to conduct the pre-order and order tests has been validated by the TG and the TA to be operational
- c) The scheduled dates for the System Capacity Test have been identified
- d) The TA has provided the TG with the test scripts to use for generating the load volumes for the test
- e) The Performance Measurement process evaluation has been successfully passed
- f) The processes used to collect, analyze and report performance data have been validated for adequacy and compliance and Qwest calculations have been determined to be accurate
- g) The quantitative point at which the system performance is deemed to be unacceptable has been identified for each of the test phases. The quantitative point will be described in terms of the performance measurements identified in Table 5.3-1.
- h) Qwest is able to separately report results for the performance measurements identified in Table 5.3-1 during the execution of the tests.

6.2 Activities

The Pretest activities that will occur prior to the test execution beginning are:

- a) A detailed plan specifying the scope, approach, entrance, exit, and execution requirements for the System Capacity Test will be provided and reviewed with the TG, the CLECs, and Qwest. The TA will amend and finalize the plan as needed.
- b) The TA will prepare test scripts for the pre-order and order System Capacity Tests
- c) The System Capacity Test will be conducted from the TG's test site. The TG's system interfaces will be designed and tested to support interface transaction volumes for Qwest's GUI and EDI gateways and back-end pre-order and order systems.

- d) The test generator will be designed to support the replication of the appropriate volume of test transactions from the required mix of test cases needed to support a valid System Capacity Test
- e) The TA will obtain the hourly historical production volume distribution for Qwest's GUI and EDI systems from Qwest. The test volumes during the System Capacity Test will be patterned to follow the same hourly transaction rates as those in Qwest's production environment. The TA will provide the TG with the required hourly mix of test transaction volumes needed for the pre-order and order System Capacity Test
- f) The TG will stage the hourly mix of transactions in the test generator for the pre-order and order tests validated by the TA
- g) Based on the Qwest and CLEC forecasts for 3Q02, the TA will determine the test load for the pre-order and order test
- h) The TA and TG will convene a review session to ensure that a complete set of verified test scripts for the pre-order and order tests are prepared and ready for the System Capacity Test.

6.3 Test Script Validation

CGE&Y will validate the test accounts by retrieving the CSRs for each of the accounts and compare the information with the information received from Qwest. Additionally, the TA will insure that the Test Accounts contain all required data to perform the test. Errors and/or omissions will be returned to Qwest for correction.

CGE&Y will create test scripts from the test accounts and forward them to Pseudo-CLEC. These scripts will be copies of the appropriate scripts used in the Functionality Test. Pseudo-CLEC will input these scripts into the test harness using EDI form tool for the EDI transactions and The IMA loader for the GUI transactions.

Pseudo-CLEC will test these scripts by inputting an LSR into the appropriate gateway for each iteration of a unique test script (Order Activity type). Qwest will cancel the LSRs by noon of the following day.

Pseudo-CLEC will test the pre-order scripts by inputting the pre-order request into the appropriate gateway for each pre-order type (i.e. CSR FAQ) for each state.

6.4 Certification Testing

For the System Capacity Test, Pseudo-CLEC will develop a multi-server environment, using the Qwest developed Interactive Agent (IA) software. Pseudo-CLEC will test this interface internally with Qwest support as needed. Once developed, Pseudo-CLEC and Qwest will certify the new interface. This test consists of Pseudo-CLEC pinging Qwest and Qwest pinging Pseudo-CLEC to prove that connectivity exists between the two entities.

7 Operational Readiness Test (ORT)

7.1 Purpose of the Operational Readiness Test

This section provides details of the plan for an operational readiness test of the System Capacity Test for the Arizona 3rd party testing effort. The objectives and guidelines of the operational readiness test are presented to ensure that an overall framework is established and agreed upon.

7.2 Objective of the Operational Readiness Test

The overall objective of the operational readiness test is to verify that all of the components of the System Capacity Test are in place and working in a sufficient manner to enable the test to proceed after evaluation of the results of the operational readiness test.

7.3 Scope of the Operational Readiness Test

This section describes the procedures that will be used during the execution of the operational readiness test as well as the components that will be evaluated as part of the operational readiness test. The main components of the operational readiness test include:

- Qwest provided Test Accounts
- TA provided Test Scripts
- Communication between the test parties during and after the test
- TG Test Transaction Generators – both GUI and EDI
- TG result monitoring software and reports
- Qwest systems and interfaces
- Qwest Pre-order TN Reservation Scripts (AKA IRTM Scripts)
- Qwest LSR and Service Order Cancellation Scripts
- The reports produced and distributed by all involved parties
- Daily cleanup activities associated with the test

7.4 Operational Readiness Test Logistics and Dependencies

The System Capacity Test shall not be executed until at least three weeks after the start of the Operational Readiness Test. This is necessary to give all involved parties sufficient time to conduct root cause analysis of any anomalies that may be discovered that are related to the test components and to rectify any flaws in test design, test tools or testing methodology. Operational readiness testing will be conducted in much the same fashion as the System Capacity Test: pre-order transactions and LSRs will be generated and the pre-order and order transactions selected for the operational readiness test are processed to the conclusion point. In the case of LSRs, either an FOC will be produced by the LSR or the LSR will be reflected in the non-flow-through LSR queue report produced daily by Qwest. To be a complete test, the operational readiness test must also contain transactions that cause multiple pending orders to be placed against the same account at the same time, so that the modification of the BPL edit to allow multiple pending orders against a single account may be exercised.

The operational readiness test will be held in several stages. The detailed time line is currently being prepared by the TA and will be discussed and agreed upon by all parties prior to the test.

The following dependencies must be satisfied prior to the beginning of the operational readiness test:

- a) The test transaction generator(s) must be available and ready for the test.
- b) The CTTG's ability to measure and report response times for transactions sent via the IMA-GUI and IMA-EDI must be established.
- c) The TA's reports that will be provided to Qwest must be developed, reviewed by Qwest, approved by the Capacity Sub-committee of the TAG, and be ready for production. They are as follows:
 - 1. Pre-Order Response Time Report. This report shows pre-order transactions separated into EDI and GUI portions. This report will be compared to the results captured by Qwest and any anomalies will be discussed with the test administrator.
 - 2. Transaction Report for LSRs – including breakdowns for successful orders, unsuccessful orders, and missing or late FOCs. This report also contains daily summary totals.
 - 3. Appointments Mistakenly Reserved – This report will only be provided when the situation occurs that Appointments for Technician Dispatch are mistakenly reserved. As part of the test, the CTTG will be reserving appointments, however the dates of those appointments should be 36 business days from the date of the order for UNE-L and 75 business days for all other product type. This report would contain only those appointments that were scheduled closer to the date of the order. Qwest would use the report to return those appointments to an available status without delay.
 - 4. Telephone Numbers Mistakenly Reserved - This report will only be provided when the situation occurs that Telephone Number resources are mistakenly reserved.
- d) Test accounts provided by Qwest have been received and validated by the TA/TG.
- e) The Qwest reports that will be provided to the TA must be developed by Qwest and reviewed by the TA and be ready for production.
 - 1. Response times for Pre-Order transactions (P01 report)
 - 2. FOC Times for LSRs (P05 report)
 - 3. CPU Utilization Report
 - 4. Memory Usage Report
 - 5. Disk I/O Utilization Report
 - 6. Non-flow-through LSR Queue Report

7.5 Operational Readiness Test Execution Guidelines

The following procedures will be utilized during the execution of the operational readiness test:

- a) The CTTG will issue at least one preorder transaction of each type to be executed during the test in each of Qwest's three regions, preferably in each state.
- b) The CTTG will issue a combination of the activity types to be executed during the test in each of Qwest's three regions.
- c) The CTTG will issue one LSR for each test account created for the test with the following exception:

- d) To ensure that the revision of the BPL edit is properly exercised, some orders during the operational readiness test will be issued consecutively.
- e) The TG will issue the LSRs over a three day period, inputting about a third of the test accounts each day.
- f) The TA/TG will make a call to Qwest per the plan created in case of normal problems and one call per the plan created in case of extraordinary problems. See Appendix A for details of these plans. These calls will be made at times prescribed by the ORT timeline.
- g) The TG will issue all agreed upon reports to Qwest at the prescribed time intervals detailed in the plan in Appendix A.
- h) Qwest will increase the frequency of IRTM pre-order transactions for the TN reservation transaction to the incremental six month level prior to the operational readiness test. This increase will remain in place until the completion of Phase I of the System Capacity Test. Qwest shall be given 48 hours notice to complete this activity. Qwest will notify the TA when this task is complete. This notice window is consistent with the notice to be given during the System Capacity Test for increasing the IRTM volumes between phases. Qwest will submit all agreed upon reports to the TA at the prescribed time intervals detailed in the plan in Appendix A.
- i) Qwest will make a call to the TA/TG per the plan created in case of normal problems and a separate call per the plan created in case of extraordinary problems. See Appendix A for details of these plans.
- j) Qwest will complete all clean-up activities, including returning resources (TN, appointments) and cancellations of the test LSRs and resultant Service Orders in the Service Order Processors.

7.6 Test Check Items

The following items will be verified in the operational readiness test:

- a) That the test generator can issue the types of independent preorder transactions and LSRs that are needed for the System Capacity Test.
- b) As in the System Capacity Test, all orders will be of the type that would be eligible for electronic flow-through to FOC. If an acceptable level of flow-through is not achieved, root cause analysis shall be undertaken in order to determine if any corrective action on the part of any of the involved parties is appropriate.
- c) That the CTTG can measure the response time for PO1 and PO5. Comparisons between measures gathered and Qwest gathered measurements will be conducted and if the results do not agree, root cause analysis will be undertaken in order to determine if there is a flaw in any of the applicable algorithms.
- d) That communication lines between Qwest, the TA, and the TG are established and work correctly for the communication of both normal and extraordinary events.
- e) That the Qwest Interconnect Service Centers (ISC) do not process any orders generated during the operational readiness test.
- f) The ISC will have instructions not to work the orders with the specified RSID.
- g) The due dates for the orders are set far enough in the future to help ensure that they don't get worked.
- h) That the reports can be produced and distributed by Qwest in the proper time frames.
- i) That the reports can be produced and distributed by the TG/TA in the proper time frames.
- j) That cleanup activities can be properly performed by Qwest
 - 1. Purge LSRs in the IMA system and the associated service orders from the Service Order Processor and downstream systems
 - 2. Return reservations (both appointments and TNs) to the available pool.

7.7 Exit Criteria

The Operational Readiness Test will be considered complete when:

- a) All the items in 7.6 have been checked and verified
- b) All incidents that were opened in conjunction with the Operational Readiness Test have been resolved and/or closed
- c) Any changes that are required for the System Capacity Test have been made, and have been retested.

8 System Capacity Test

8.1 System Capacity Test Purpose

This section provides details of the plan for the System Capacity Test for the Arizona 3rd party testing effort. The objectives and guidelines of the System Capacity Test are presented to ensure that an overall framework is established and agreed upon.

8.2 Objective of the System Capacity Test

The overall objective of the System Capacity Test is to validate that Qwest's OSS and processes can handle loads equal to or greater than estimated Pre-order and Order volumes projected one year from the date of the running of the System Capacity Test (2Q 2002 at the established performance measures levels).

8.3 System Capacity Test Logistics and Dependencies

The System Capacity Test will be executed in four phases Test. This is necessary to insure that the System Capacity Test does not adversely affect the Qwest production systems. The System Capacity Test will be conducted as follows: pre-order transactions and LSRs will be generated and the pre-order and order transactions will be processed to the conclusion point. In the case of LSRs, either an FOC will be produced by the LSR or the LSR will be reflected in the non-flow-through LSR queue report produced daily by Qwest. In the case of the Pre-Order transaction, a response to the request will be received. Requests with no responses will be listed and reported as an observation.

The System Capacity Test Time line is detailed in section 12.

The following dependencies must be satisfied prior to the beginning of the System Capacity Test:

- a) The test transaction generator(s) must be available and ready for the test.
- b) The CTTG's ability to measure and report response times for transactions sent via the IMA-GUI and IMA-EDI must be established.
- c) The TA's reports that will be provided to Qwest must be developed by the TA, reviewed by Qwest, approved by the Capacity Sub-committee of the TAG, and be ready for production. They are as follows:
 1. Pre-Order Response Time Report. This report shows pre-order transactions separated into EDI and GUI portions. This report will be compared to the results captured by Qwest and any anomalies will be discussed with the test administrator.
 2. Transaction Report for LSRs – including breakdowns for successful orders, unsuccessful orders, and missing or late FOCs. This report also contains daily summary totals.
 3. Appointments Mistakenly Reserved – This report will only be provided when the situation occurs that Appointments for Technician Dispatch are mistakenly reserved. As part of the test, the CTTG will be reserving appointments, however the dates of those appointments should be 36 days from the date of the order for UNE-L and 75 days for POTS and other product/service types in the System Capacity Test. CGE&Y will provide Qwest with the Due Dates used in the test at close of business on the day of the test. This report would contain only those appointments that were scheduled for Due Dates other than the above. Qwest would use the report to return those appointments to an available status without delay.

4. Telephone Numbers Mistakenly Reserved - This report will only be provided if Telephone Number resources are mistakenly reserved.
- d) Test accounts provided by Qwest have been received and validated by the TA/TG.
- e) The Qwest reports that will be provided to the TA must be developed by Qwest, reviewed and approved by the TA, and be ready for production.
1. Response times for Pre-Order transactions (P01 report)
 2. FOC Times for LSRs (P05 report)
 3. CPU Utilization Report
 4. Memory Usage Report
 5. Disk I/O Utilization Report
 6. Non-flow-through LSR Queue Report

8.4 System Capacity Test Execution Guidelines

The following procedures will be utilized during the execution of the Capacity Test:

- a) All orders will be of the type that would be eligible for electronic flow-through to FOC. If an acceptable level of flow-through is not achieved, root cause analysis shall be undertaken in order to determine if any corrective action on the part of any of the involved parties is appropriate. An unacceptably low percentage of flow-through orders may require additional LSRs to be submitted in order to achieve the required volumes of flow-through orders or a complete retest may be necessary.
- b) The TA will issue all agreed upon reports to Qwest at the prescribed time intervals detailed in the plan in Appendix A.
- c) Qwest will issue all agreed upon reports to the TA at the prescribed time intervals detailed in the plan in Appendix A.
- d) The TA will analyze the System Reports to determine whether to continue to the next phase
- e) The TA will inform Qwest to increase the frequency of IRTM pre-order transactions for the TN reservation transaction to the incremental next level prior. Qwest shall be given notice to complete this activity a business day before the adjustment to IRTM is required.
- f) Qwest will complete all clean-up activities, including returning resources (TN, appointments) and cancellations of the test LSRs and resultant Service Orders in the Service Order Processors at the end of the day for each test phase.
- g) Pseudo-CLEC will issue pre-orders and orders through the test harness (IMA and EDI) to Qwest from 7: 00am – 6: 00pm MST (AZ time) on the day of the test.
- h) CGE&Y will have a representative in Salt Lake City, Utah and Phoenix, AZ (Pseudo-CLEC site) to monitor the System Capacity Test.
- i) Pseudo-CLEC will have an automated process ready to kick off the pre-order and order transaction based on CGE&Y specified times.
- j) Pseudo-CLEC and CGE&Y will have all templates loaded for both EDI and IMA GUI orders and pre-orders with the correct volume ready for whatever phase the System Capacity Test is running.
- k) Pseudo-CLEC will record all response times electronically and not manually.
- l) EDI FOCs will be kept electronically by Pseudo-CLEC and the IMA GUI FOCs received by email will also be tracked electronically by Pseudo-CLEC.
- m) Pseudo-CLEC will provide Qwest and CGE&Y a list of all LSR IDs and PONs that ran for the System Capacity Test the following day by 12:00pm. The purpose for this is to allow Qwest the proper time to go back in their systems and cancel all FOCs.
- n) All reports required from Pseudo-CLEC will be provided to CGE&Y within 24 hours after the System Capacity Test has finished.
- o) Pseudo-CLEC will not start resetting anything for the next System Capacity Test until a confirmation email is received from CGE&Y to start preparing for the next phase of the System Capacity Test.
- p) Pseudo-CLEC will require 5 business days to reset everything necessary to continue with the next phase of the System Capacity Test.

8.5 System Capacity Test Deliverable Items

- a) All volume requirements for all phases of the System Capacity Test loaded and ready at the times specified by CGE&Y.
- b) All response times measured (not calculated) for EDI and IMA pre-order and LSR transactions recorded by Pseudo-CLEC and sent to CGE&Y for calculation.
- c) All FOC and rejection receipt times recorded electronically for EDI and GUI orders by Pseudo-CLEC and sent to CGE&Y.
- d) All PONs given to Qwest and CGE&Y so that Qwest can cancel all LSRs.
- e) All PONs that did not receive a FOC or a rejection notice
- f) All reports as outlined in Appendix A

8.6 Exit Criteria

The System Capacity Test will be considered complete when

- a) The pre-order and order System Capacity Test has been completed according to the plan
- b) Phase 1,2 or 3 testing results meet the PO-1a and b and PO-5a Performance Measure Benchmark at the required volume transactions
- c) All incidents (IWOs) that were opened in conjunction with the System Capacity Test have been resolved and/or closed
- d) Any changes that had to be made as a result of incidents against the 6-month test deemed necessary, have been retested
- e) The Phase 4 Test (Stress Test) has been completed, providing the System Reports indicate that performing the Stress Test will not adversely affect the Qwest production environment
- f) All of the data associated with the System Capacity Test has been captured and retained by the CTTG
- g) The System Capacity Test evaluation and findings are included in the TA's final report compiled for the ACC
- h) All documentation related to the System Capacity Test is verified as complete by the TA and stored in the master project file
- i) Pseudo-CLEC and Qwest have completed their respective clean-up process

8.7 Test Analysis

After each test execution:

- a) Pseudo-CLEC and Qwest will forward the data to CGE&Y for analysis.
- b) CGE&Y will analyze and report on the Performance Measures PO-1a and b, and PO-5a as defined by the PID.
- c) CGE&Y will track PO-2, the purpose for validating the test only
- d) CGE&Y will compare the data provided by Pseudo-CLEC with the data provided with Qwest
- e) CGE&Y will compare the system data captured during the System Capacity Test with the system data Qwest supplied to CGE&Y on a daily basis starting March 12, 2001 to establish a baseline to use as a comparison with the results of the System Capacity Test
- f) CGE&Y will provide the Reports to Capacity Sub-committee of the TAG during of each phase of the test

9 Cleanup Process

At the end of each test phase Qwest and Pseudo-CLEC will perform clean-up operations on LSRs and/or service orders.

- a) Cleanup activities performed by Qwest
 1. Purge LSRs in the IMA system and the associated service orders from the Service Order Processor.
 2. Return reservations (both appointments and TNs) to the available pool.
 3. Make sure all LSRs and service orders are cancelled.
 4. Make sure all FOCs are cancelled.
- b) Cleanup activities performed by Pseudo-CLEC
 - 3 Clean and reset all databases for the next test.
- c) Final cleanup operations on LSR and/or service orders.

Once the TA has notified Qwest that the System Capacity Test is complete, in addition to the above activities, the IRTM scripts which had been put in place to produce additional pre-order transaction volumes will be reduced to their normal levels.

10 Operational Readiness Test Execution Time Line

This section details the daily activities and deliverables during each day of the Operational Readiness Test.

10.1 Operational Readiness Test Time Line

Day 1 – Run Operational Readiness Test GUI LSRs Only (9 – 1) MST

- CGE&Y monitors test from Phoenix
- Qwest/Pseudo-CLEC/CGE&Y exercise normal Processing Procedures simulating a TG Concern (Hour 4)
- Qwest to cancel LSRs
- Qwest/Pseudo-CLEC/CGE&Y convene Test review at 2PM MST
- Reconvene at Time TBD if necessary

Day 2 – Qwest sends the following reports to CGE&Y:

CPU Utilization (for each 10 minute interval)
Memory Usage (for each 10 minute interval)
Disk I/O Utilization (for each 10-minute interval)
Response Time for Pre-Order transactions PO-1

- Pseudo-CLEC sends Status File to CGE&Y
 - **CGE&Y sends the following reports to Qwest:**
Total LSRs Sent
List of LSRs (By LSR number (when available) and PON) EDI
Response times for Pre-Order Transactions (for each 15 minute interval)
List of TNs mistakenly reserved (Should be null)
List of appointments reserved
Total FOCs Returned
 - **CGE&Y/Pseudo-CLEC/Qwest review Previous days run:**
Identify any problems associated with day 1 test execution
Create action plan for error correction
Make go/no go decision for next test
CGE&Y notifies Pseudo-CLEC to prepare for next test⁷⁶
CGE&Y notifies Qwest to update IRTM⁷⁷

Day 3 - Run Operational Readiness Test (LSRs and associated Pre -Order Transactions) GUI & EDI (9 – 1) MST

- Qwest provides PO-5 Report from Day 1 Test
- CGE&Y to monitor test from Phoenix
- Qwest/Pseudo-CLEC/CGE&Y exercise normal Processing Procedures simulating a SYAD concern (Hour 1)
- Qwest/Pseudo-CLEC/CGE&Y exercise Extraordinary Processing Procedures simulating a Pseudo-CLEC concern (hour 4)

⁷⁶ To test HP internal process. This iteration Only

⁷⁷ To test Qwest internal process. This iteration Only

- Qwest to cancel LSRs
- Qwest/Pseudo-CLEC/CGE&Y convene Test review at 2PM MST
- Reconvene at Time TBD if necessary

Day 4 - Qwest sends to CGE&Y the following reports:

Report CPU Utilization (for each 10-minute interval)
 Memory Usage (for each 10 minute interval)
 Disk I/O Utilization (for each 10-minute interval)
 Response Time for Pre-Order transactions (for each 15 minute interval) PO-1

- Pseudo-CLEC sends Status File to CGE&Y
- CGE&Y sends the following reports to Qwest:
 Total LSRs Sent
 List of LSRs (By LSR number (when available) and PON) EDI
 Response times for Pre-Order Transactions
 List of TNs mistakenly reserved (Should be null)
 List of appointments reserved
 Total FOCs Returned
- CGE&Y/Pseudo-CLEC/Qwest review Previous days run
 Identify any problems associated with day 8-test execution
 Plan of action for error correction created
 Make go/no go decision for next test
 CGE&Y notifies Pseudo-CLEC to prepare for next test

Day 5- Run Operational Readiness Test (100% of LSRs and associated Pre-Order Transactions) EDI & GUI Only (9 – 1) MST

- CGE&Y to monitor test from Phoenix
- Qwest/Pseudo-CLEC/CGE&Y exercise Extraordinary Processing Procedures simulating a SYAD concern (Hour 4)
- Qwest cancels LSRs
- QWEST cancels TN reservations
- Qwest/Pseudo-CLEC/CGE&Y convene Test review at 2PM MST
- Reconvene at Time TBD if necessary

Day 6 - Qwest sends the following reports to CGE&Y:

- CPU Utilization (for each 10 minute interval)
 Memory Usage (for each 10 minute interval)
 Disk I/O Utilization (for each 10 minute interval)
 Response Time for Pre-Order transactions PO-1
- Pseudo-CLEC sends Status Log to CGE&Y
 - CGE&Y sends the following reports to Qwest:
 Total LSRs Sent
 List of LSRs (By LSR number (when available) and PON) EDI
 Response times for Pre-Order Transactions (for each 15 minute interval)
 List of TNs mistakenly reserved (Should be null)
 List of appointments reserved
 Total FOCs Returned
 - CGE&Y/Pseudo-CLEC/Qwest review Previous days run
 - Identify problems associated with day 10 test execution

- Plan of action for error correction created
- Make go/no go decision for next test
- CGE&Y notifies Pseudo-CLEC to prepare for next test

Day 7 - Qwest provides PO-5 Report from Day 5 Test

- CGE&Y/Qwest/Pseudo-CLEC determine if EDI phase of the Operational Readiness Test is complete

11 Test Execution Time Line

This section details the daily activities and deliverables during each day of the System Capacity Test.

11.1 System Capacity Test Time Line

Day 1 – Run System Capacity Test Phase 1

Day 2 - Qwest sends the following reports to CGE&Y:

CPU Utilization (for each 10 minute interval)

Memory Usage (for each 10 minute interval)

Disk I/O Utilization (for each 10 minute interval)

LSR # and/or PON # of orders (on a daily basis) for which FOCs were not sent.

These would include LSRs that had gone to an error queue or to the ISC for manual handling.

Response Time for Pre-Order transactions

- CGE&Y/Qwest make go/no go decision for next phase of test
- If yes, Qwest updates IRTM with next test load for TN Reservation transaction (Qwest requires one business day)
- Pseudo-CLEC sends Status Log to CGE&Y
- CGE&Y sends the following reports to Qwest:
 - Total LSRs Sent
 - List of LSRs (By LSR number (when available) and PON) EDI
 - List of LSRs (By PON) GUI
 - Response times for Pre-Order Transactions
 - List of TNs mistakenly reserved (Should be null)
 - List of appointments reserved
- CGE&Y begins to analyze data

Day 3 - Pseudo-CLEC sends to CGE&Y list of FOCs returned via Email (FOCs for LSRs issued via IMA)

- CGE&Y sends to Qwest the following report
Total FOCs Returned
List of FOCs (By PON and LSR number)
- CGE&Y continues to analyze data
- CGE&Y informs Pseudo-CLEC to prepare for next test (Pseudo-CLEC requires 5 days to reset harness)
- Qwest sends to CGE&Y FOC report (PO-5)

Day 4 - Test preparation (Pseudo-CLEC)

Day 5 - Test preparation (Pseudo-CLEC)

Day 6 – Ready to run next phase of System Capacity Test

Repeat for days 6 –11 (Phase 2 or Phase 4)

Repeat for days 12 –17 (Phase 3 or Phase 4 if necessary)

Repeat for day 18 –23 (Phase 4 if necessary)

12 Report Formats

Following are the report formats that will be produced during the System Capacity Test.

Transaction Report for Arizona System Capacity Test

Reporting Date: April 1, 2001 (This is the date the Test Was Executed)
Report Generation Date : April 1, 2001 (This is the date the Report was generated)
Report Generator: CGE&Y
Test Start Time: **Test End Time:**

2295 LSRs – IMA-EDI (Issued through IMA-EDI)
 405 LSRs – IMA-GUI (Issued through IMA-GUI)

2295 FOCs – IMA-EDI (received for orders issued through IMA-EDI)
 405 FOCs – IMA-GUI (received for orders issued through IMA-GUI)

EDI/GUI	LSR #		PON		Successful Orders	LSR Issue Time	FOC Received Time	Elapsed Time
EDI	123456		[Redacted]101		FOC			
EDI	123458		[Redacted]103		FOC			
EDI	123459		[Redacted]104		FOC			
GUI	123460		[Redacted]101		FOC			
GUI	123461		[Redacted]103		FOC			
GUI	123462		[Redacted]104		FOC			

	LSR #		PON		Unsuccessful Orders	LSR Issue Time	Error Received Time
EDI			[Redacted]105		Error Message		
EDI			[Redacted]106		Error Message		
EDI			[Redacted]107		Error Message		
GUI	123464		[Redacted]108		Error Message		
GUI	123465		[Redacted]109		Error Message		
GUI	123466		[Redacted]110		Error Message		

EDI/GUI	LSR #		PON		Missing/Late FOCs*	LSR Issue Time
EDI			[Redacted]111		No FOC	
EDI			[Redacted]112		No FOC	
EDI			[Redacted]113		No FOC	
GUI	123463		[Redacted]114		No FOC	
GUI	123464		[Redacted]115		No FOC	
GUI	123465		[Redacted]116		No FOC	

*Will be reconciled with Qwest provided Error Queue Report (Report of Orders that fell into the manual handling queue)

Pre-order Response Times for Arizona System Capacity Test

Reporting Date : April 1, 2001 (This is the date the Test Was Executed)
Capacity Test PO-1 Report*

Report Generation Date : April 1, 2001 (This is the date the Report was generated)
Report Generator: CGE&Y
Test Start Time: **Test End Time:**

Media	Category	Month	Day	Numerator	Denominator	CLEC Result	Standard Deviation
EDI	AAQ						
EDI	AVQ						
EDI	CSR						
EDI	FAQ						
EDI	Loop Qual						
EDI	SAQ						
EDI	TNAQ						
IMA	AAQ						
IMA	AVQ						
IMA	CSR						
IMA	FAQ						
IMA	Loop Qual						
IMA	SAQ						
IMA	TNAQ						

TN AQ generated by Test Generator for Resale and UNE-P New orders only

* Response Times will be calculated according to PO -1							
Pre-Order Response Times (Appt. Scheduler) (Avg. Sec) IMA Accept (PO-1 A-1(c))							
Date			Numerator	Denominator	CLEC Result	Standard Dev	
Pre-order Response			1164.81	947	1.23	0.01	

13 APPENDIX A Communications and Problem Notification Plans

13.1 Observation of Qwest operations by TA

The Test Administrator (TA) will be monitoring from Qwest's IMA Operations Center (located in Salt Lake City, Utah) to observe Qwest's ability to handle the additional load due to the System Capacity Test with their existing hardware. There will also be observation by the TA from the Test Generator (TG) designated location to ensure that the test is being performed to the test specification. The dates on which the observations will occur will not be announced in advance to Qwest. Upon the arrival of the TA representatives at the Qwest IMA Operations Center, they will call the Qwest IMA Application System Administrators (SYADs) by telephone and the SYADs will assist the TA representatives to gain entry into the Operations Center to conduct the observation.

While on-site, the TA will refrain from asking questions so as not to impair normal operations. Any questions, clarifications, or request for documentation will be provided in writing to the Qwest Core Testing Team after the observations.

13.2 Normal Processing Procedures During Testing

Qwest system administration will follow normal practices during the System Capacity Test. At any time during the third-party testing effort, if the actions of the TG begin to cause system impacts of concern to the SYADs, the TA will be contacted using the telephone number and/or pager number supplied below in the Normal Processing Procedures section.

The Qwest number for problems that the TG would call seeking assistance with problems determined to be "normal" problems is the Wholesale Systems Help Desk at [Redacted].

The Pseudo-CLEC contact that Qwest SYADs will call to discuss "normal" trouble situations is: [Redacted] at [Redacted] or email [Redacted] or fax [Redacted]

13.3 Extraordinary Processing Procedures

If Qwest SYADs or other Qwest testing personnel determine that it is necessary to inform the TG that there is the need to halt the orders being issued for the test due to extraordinary circumstances, Qwest will contact the TG and determine the appropriate action including cessation of the test.

Likewise, if the necessity arises for the TG or TA to contact Qwest, either party may do so.

The Qwest number for extraordinary events is [Redacted]. If this telephone number is busy, the caller is rolled to voicemail. Alternate numbers to use are the Client Services Hotline at [Redacted]. Contact names at the Salt Lake Center are [Redacted] (pager [Redacted]) and [Redacted] (pager [Redacted]).

The Pseudo-CLEC number for extraordinary events is [Redacted] ([Redacted])
A backup pager number is [Redacted] ([Redacted])

13.4 Time Intervals for Delivering Test Reports

The TA will notify Qwest when to increase the IRTM scripts to account for the Reserve Telephone Number Pre-order transaction. The revised scripts will be put in place by the Qwest IRTM team. Such notification to Qwest will be made two weeks in advance of the first test and 48 hours in advance of each

subsequent test phase. Notification to Qwest of the days on which System Capacity Tests are run will be made on each of the days after testing stops. Qwest will produce the Performance Measure Reports promised to the TA only for those days. Additionally, Qwest will provide System Reports on a daily basis beginning March 12, 2001. Likewise, the TA will produce the reports promised to Qwest on those days. All reports will be transmitted by electronic mail and transmitted as an Excel spreadsheet with the exception of the LSR Report, which will be transmitted as an Excel spreadsheet as well as a text file.

13.4.1 Qwest Provided Reports

When Qwest is given notification, it will provide the following reports to the TA. These reports will be delivered to the TA on the next business day following the day of the request for reports.

13.4.1.1 PERFORMANCE MEASURE REPORTS

- Response Time for Pre-Order transactions
- FOC times for LSRs (% within 20 minutes)⁷⁸

13.4.1.2 SYSTEM REPORTS

- CPU Utilization (for each 10 minute interval)
- Memory Usage (for each 10 minute interval)
- Disk I/O Utilization (for each 10 minute interval)

13.4.1.3 LSR REPORT

LSR # and/or PON # of orders (on a daily basis) for which FOCs were not sent. These would include LSRs that had gone to an error queue or to the ISC for manual handling.

13.4.2 TA/TG Provided Reports

The TG will provide to the TA with the raw data and the TA will provide to Qwest the following reports. The reports (unless otherwise specified) will be delivered to Qwest on the day after the System Capacity Test:

13.4.2.1 GENERAL REPORTS

- Total FOCs returned⁷⁹
- Response times for Pre-Order transactions
- List of LSRs (LSR # and PON) with total number of transactions. The TA will provide to Qwest a list of LSRs (by LSR # and PON) for which the TA has received an FOC or has otherwise accounted for (for example they saw the LSR on the LSR Report that Qwest provides). This report will give

⁷⁸ The PO-5 Reports will be delivered 2 business days after test execution.

⁷⁹ GUI FOCs will be delivered within 48 hours after test execution.

Qwest notification that it may cancel/purge these LSRs in the IMA system and the associated service orders (SO) from the service order processor.⁸⁰

- List of Appointments reserved by the TG and of TNs that were mistakenly reserved. These reservations need to be returned to the available pool as soon as possible to avoid impacts to customers.

13.4.2.2 PERFORMANCE MEASURE REPORTS

- Response Time for Pre-Order transactions
- FOC times for LSRs (% within 20 minutes)⁸¹

13.4.3 Pseudo-CLEC provided Data

Pseudo-CLEC will provide the following information to CGE&Y within 48 hours after test execution:

- All response times measured (not calculated) for EDI and IMA pre-order transactions and sent to CGE&Y for calculation. (within 24 hours)
- All FOC times recorded electronically for EDI orders. (within 24 hours)
- All FOC times recorded electronically for IMA responses. being sent from (within 24 hours)
- All PONs given to CGE&Y so that Qwest can cancel all FOCs. (within 24 hours)
- LSR information for CGE&Y reports to Qwest. (within 24 hours)

13.4.4 Report Contacts

The reporting contact for the Qwest organization will be Merrill Bennett. He may be reached at (303)-965-4357 or by email at mxbenn3@qwest.com. The reporting contact for the TA will be Jerry Stroud. He may be reached at 480-736-8500.

⁸⁰ Partial List will be delivered within 24 hours, full report will be issued within 48 hours after test execution.

⁸¹ The PO-5 Report will be delivered 5 business days after test execution

14 APPENDIX B Stand Alone Pre-Order Transactions

Below is the formula to calculate the number of standalone preorder transactions that Pseudo-CLEC needs to execute, description of the steps involved and an illustrative calculation:

Daily Incremental LSR Vol.	(1)	1721	
<u>X Ratio of 5.8152</u>	(2)	<u>x 5.8152</u>	
Total Incremental LSR Vol.	(3)	10,008	
-- IMA Pre-Order	(4)	<u>-3012</u>	(1) * 1.75 -- Pseudo-
<u>CLEC Generated</u>	(5)		
Total Stand Alone PO Trans.	(6)		
x Percentage Per	(7)		
PO Transaction			

- 1) This represents the daily incremental volumes of LSRs at the 6, 9 and 12-month levels. The calculation will need to be done for the necessary hourly increments related to 6, 9 and 12 month increments. The illustration shows that 1721 incremental LSRs are to be executed in a day.
- 2) This is the ratio of preorder transactions to an order. It accounts for all preorder transactions: those issued as standalone transactions by CLECs, those related to an order and those executed downstream by IMA. It was determined using all of 1999 and 2000 data.
- 3) This is the total incremental pre-order transaction volumes that is calculated by multiplying (1) x (2).
- 4) This is the IMA-generated preorder transactions by order type.
 - a) An address validation is executed for every incremental LSR that Pseudo-CLEC will execute.
 - b) A customer service record (CSR) is generated for 75% of the incremental LSRs. The reason for this is that CSR's are NOT needed for New Connects, Order Type "N", and they make up approximately 25% of total LSRs based on actual numbers from Jan-00 thru Jun-00.Therefore, the daily incremental LSR volume (1) needs to be multiplied by 1.75 to arrive at the number of IMA-generated preorder transactions. This result needs to be subtracted from the total incremental preorder transaction volumes (3) because the IMA-generated transactions is part of the preorder transaction ratio. To avoid double dipping, the number of IMA-generated transactions needs to be subtracted.
- 5) This represents the total number of Pseudo-CLEC-generated preorder transactions. It is calculated by taking the number of preorder transactions by order type contained in the TSD x the volumes of orders by order type.
- 6) This is the total number of stand alone preorder transactions that Pseudo-CLEC needs to submit. It is derived by subtracting the number of IMA preorder transactions (4) and Pseudo-CLEC-generated transactions associated with an order (5) from the total incremental LSR volume (3).
- 7) This represents percentage frequency of preorder transactions by transaction type. It was determined by using actual percentages. The following percentages need to be applied against the total number of stand alone preorder transactions that Pseudo-CLEC needs to submit (6) to determine the hourly number of preorder transaction by transaction type.

The percentages are:

- a) Address validation = 39% of total PO Transactions
- b) CSR Retrieval = 31% of total PO Transactions
- c) Appointment Retrieval/Reservation = 1% of total PO Transactions
- d) Service Availability = 4% of total PO Transactions
- e) Facility Availability = 4.5% of total PO Transactions
- f) TN Reservations = 20.5% of total PO Transactions

15 APPENDIX C System Capacity Test LSR Mix

Core Set of LSRs for System Capacity Test (12 Month)				
		Scenario Types by	% of Orders	#of Orders
	% of Orders	Product/Activity	(approximate)	(approximate)
LNP Only	51.08%			2332
		LNP (V)	13.66%	319
		LNP (Z)	86.34%	2014
			100.00%	
UNE Loop with LNP	5.26%			240
		Retail to UNE Loop Conversion (V)	20.67%	50
		Retail to UNE Loop Conversion (Z)	79.33%	191
			100.00%	
UNE Loop without LNP	24.34%			1111
		Retail to UNE Loop Conversion (V)	3.70%	41
		UNE Loop – New (N)	77.94%	866
		UNE Loop – Disconnect (D)	18.36%	204
			100.00%	
Resale	16.25%			742
		Retail to Resale Conversion (V)	8.80%	65
		Retail to Resale Conversion (Z)	15.10%	112
		Resale – New (N)	6.30%	47
		Resale – Change (C)	40.40%	300
		Resale – Disconnect (D)	29.40%	218
			100.00%	
UNE-P	3.09%			141
		Retail to UNE-P Conversion (V)	8.80%	12
		Retail to UNE-P Conversion (Z)	15.10%	21
		UNE-P – New (N)	6.30%	9
		UNE-P – Change (C)	40.40%	57
		UNE-P – Disconnect (D)	29.40%	41
			100.00%	
Totals	100.02%	Totals		4566

Core Set of LSRs for System Capacity Test (9 Month)				
	% of Orders	Scenario Types by Product/ Activity	% of Orders (approximate)	#of Orders (approximate)
LNP Only	60.82%			1562
		LNP (V)	13.67%	214
		LNP (Z)	86.33%	1349
			100.00%	
UNE Loop with LNP	5.28%			136
		Retail to UNE Loop Conversion (V)	20.67%	28
		Retail to UNE Loop Conversion (Z)	79.33%	108
			100.00%	
UNE Loop without LNP	16.64%			427
		Retail to UNE Loop Conversion (V)	3.70%	16
		UNE Loop – New (N)	77.94%	333
		UNE Loop – Disconnect (D)	18.36%	78
			100.00%	
Resale	14.50%			373
		Retail to Resale Conversion (W)	6.30%	23
		Retail to Resale Conversion (V)	2.50%	9
		Retail to Resale Conversion (Z)	15.10%	56
		Resale – New (N)	6.30%	23
		Resale – Change (C)	40.40%	150
		Resale – Disconnect (D)	29.40%	110
UNE-P	2.76%		100.00%	71
		Retail to UNE-P Conversion (V)	8.80%	6
		Retail to UNE-P Conversion (Z)	15.10%	11
		UNE-P – New (N)	6.30%	4
		UNE-P – Change (C)	40.40%	29
		UNE-P – Disconnect (D)	29.40%	21
			100.00%	
Totals	100.00%	Totals		2569

Core Set of LSRs for System Capacity Test (6 Month)				
	% of Orders	Scenario Types by Product/Activity	% of Orders (approximate)	#of Orders (approximate)
LNP Only	54.30%			935
		LNP (V)	13.67%	128
		LNP (Z)	86.33%	807
			100.00%	
UNE Loop with LNP	5.77%			99
		Retail to UNE Loop Conversion (V)	20.67%	21
		Retail to UNE Loop Conversion (Z)	79.33%	79
			100.00%	
UNE Loop without LNP	15.18%			261
		Retail to UNE Loop Conversion (V)	3.70%	10
		UNE Loop – New (N)	77.94%	204
		UNE Loop – Disconnect (D)	18.36%	48
			100.00%	
Resale	20.76%			357
		Retail to Resale Conversion (W)	6.30%	23
		Retail to Resale Conversion (V)	2.50%	9
		Retail to Resale Conversion (Z)	15.10%	54
		Resale – New (N)	6.30%	23
		Resale – Change (C)	40.40%	144
		Resale – Disconnect (D)	29.40%	105
			100.00%	
UNE-P	3.96%			68
		Retail to UNE-P Conversion (V)	8.80%	6
		Retail to UNE-P Conversion (Z)	15.10%	10
		UNE-P – New (N)	6.30%	4
		UNE-P – Change (C)	40.40%	28
		UNE-P – Disconnect (D)	29.40%	20
			100.00%	
Totals	99.97%	Totals		1722

16 APPENDIX D System Capacity Test Pre-Order MIX

Pre-Order Query for each System Capacity Test Order Service Request (12 Month)								
Order Type	Service Request – Activity / Product	CSR	Addr Val	TN Rqst*	Serv Avail	Appt Sched (Dispatch)	Facil Avail	Loop Qual
LNP Only								
	LNP (V)	319	319					
	LNP (Z)	2014	2014					
UNE Loop with LNP								
	Retail to UNE Loop Conversion (V)	50	50	7	35		7	7
	Retail to UNE Loop Conversion (Z)	191	191	29	133		29	29
UNE Loop w/o LNP								
	Retail to UNE Loop Conversion (V)	41	41	6	29		6	6
	UNE Loop – New (N)		866		866		866	866
	UNE Loop – Disconnect (D)	204	204					
Resale								
	Retail to Resale Conversion (W)	0	0					
	Retail to Resale Conversion (V)	65	65		65	10	10	
	Retail to Resale Conversion (Z)	112	112		112	17	17	
	Resale – New (N)		47	47	47	47	47	47
	Resale – Change (C)	300	300	45	300	45	45	
	Resale – Disconnect (D)	218	218					
UNE-P								
	Retail to UNE-P Conversion (V)	12	12		12	2	2	
	Retail to UNE-P Conversion (Z)	21	21		21	3	3	
	UNE-P – New (N)		9	9	9	9	9	9
	UNE-P – Change (C)	57	57	9	57	9	9	
	UNE-P – Disconnect (D)	41	41					
TOTAL Pseudo-CLEC		3645	4567	151	1687	141	1049	964
Standalone		1971	2480	1303	254	64	286	
Total Pre - Order		5616	7046	1455	1941	204	2857	964

Pre-Order Query for each System Capacity Test Order Service Request (9 Month)								
Order Type	Service Request – Activity / Product	CSR	Addr Val	TN Rqst*	Serv Avail	Appt Sched (Dispatch)	Facil Avail	Loop Qual
LNP Only								
	LNP (V)	214	214					
	LNP (Z)	1349	1349					
UNE Loop with LNP								
	Retail to UNE Loop Conversion (V)	28	28		28		4	4
	Retail to UNE Loop Conversion (Z)	108	108		108		16	16
UNE Loop w/o LNP								
	Retail to UNE Loop Conversion (V)	16	16		16		2	2
	UNE Loop – New (N)		333		333		333	333
	UNE Loop – Disconnect (D)	78	78					
Resale								
	Retail to Resale Conversion (W)	23	23					
	Retail to Resale Conversion (V)	9	9		9	1	1	
	Retail to Resale Conversion (Z)	56	56		56	8	8	
	Resale – New (N)		23	23	23	23	23	23
	Resale – Change (C)	150	150		150	23	23	
	Resale – Disconnect (D)	110	110					
UNE-P								
	Retail to UNE-P Conversion (V)	6	6		6	1	1	
	Retail to UNE-P Conversion (Z)	11	11		11	2	2	
	UNE-P – New (N)		4	4	4	4	4	4
	UNE-P – Change (C)	29	29		29	4	4	
	UNE-P – Disconnect (D)	21	21					
TOTAL Pseudo-CLEC		2208	2569	28	774	67	423	384
Standalone		1237	1556	818	160	40	180	
Total Pre - Order		3445	4125	846	934	107	603	384

Pre-Order Query for each System Capacity Test Order Service Request (6 Month)								
Order Type	Service Request – Activity / Product	CSR	Addr Val	TN Rqst*	Serv Avail	Appt Sched (Dispatch Only)	Facil Avail	Loop Qual
LNP Only	LNP (V)	128	128					
	LNP (Z)	807	807					
UNE Loop with LNP								
	Retail to UNE Loop Conversion (V)	21	21		21		3	21
	Retail to UNE Loop Conversion (Z)	79	79		79		12	79
	Retail to UNE Loop Conversion (V)	10	10		10		1	10
UNE Loop without LNP	UNE Loop – New (N)		204		204		204	204
	UNE Loop – Disconnect (D)	48	48					
Resale								
	Retail to Resale Conversion (W)	23	23			23		
	Retail to Resale Conversion (V)	9	9		9	9	1	
	Retail to Resale Conversion (Z)	54	54		54	54	8	
	Resale – New (N)		23	23	23	23	23	23
	Resale – Change (C)	144	144		144	144	22	
	Resale – Disconnect (D)	105	144					
UNE-P								
	Retail to Resale Conversion (V)	6	6		6	6	1	
	Retail to Resale Conversion (Z)	10	10		10	10	2	
	Resale – New (N)		4	4	4	4	4	4
	Resale – Change (C)	28	28		28	28	4	
	Resale – Disconnect (D)	20	28					
TOTAL Pseudo-CLEC		1491	1768	27	591	301	285	340
Standalone		682	858	451	88	22	99	
Total Pre - Order		2173	2626	478	679	323	384	340

* TN Requests will be input by IRTM

17 APPENDIX E System Capacity Test Transaction Distribution

State	Percent of Total (Approximate)
Arizona	9.9%
Utah	13.8%
Colorado	23.0%
Iowa	3.0%
Idaho	1.2%
Minnesota	13.8%
Montana	3.7%
North Dakota	2.0%
Nebraska	1.3%
New Mexico	1.6%
Oregon	4.7%
South Dakota	0.5%
Washington	21.5%
Wyoming	0.2%
Sum of Incremental	100.00%

Hour MST	% per hour (Approximate)
7:00 AM	8.81%
8:00 AM	9.95%
9:00 AM	11.11%
10:00 AM	10.06%
11:00 PM	9.66%
12:00 PM	10.05%
1:00 PM	10.13%
2:00 PM	8.57%
3:00 PM	7.30%
4:00 PM	6.66%
5:00 PM	7.69%
TOTAL	100%

18 APPENDIX F Incident Work Order Form Example

INCIDENT WORK ORDER FORM

Tracking Number	
PON(Optional)	
Date/Time of Incident	
Initiator	
Initiator's Email	
Initiator's Number	
Severity Level	
Date /Time CGE&Y advised of Incident	
Qwest SPOC Referred Time	
Date/Time Referred to TAG	

Description of Incident

Detail description of the incident

Qwest SPOC **Qwest estimated completion date**

--	--

Qwest Proposed Resolution

--

DATE Referred to TAG:

(TAG Comments or Objections)

Date Closed:

(Closing remarks)

Appendix Q – LSOG 3 Comparison

LSR Form for Unbundled Loop

Field Name	LSOG 3	Qwest	Instructions
ADMIN SECTION			
CCNA	R	C for all activity types except for Disconnect	
PON	R	R	
VER	C	O	
LSR NO.	C	N	
LOCQTY	R	N	
HTQTY	O	N	
AN	C	R for Conv As Specified O for all other activity types	Per LSOG 3: Required when the ATN field is not populated. Required when the EAN field on the EU form is blank or when a new AN is required.
NAN		C for Conv As Specified N for all other activity types	This field is not contained in LSOG 3. This entry is required when the AN (the line that Qwest uses as the BTN) is moved from Qwest to another co-provider account on a partial conversion. This means that the primary AN is no longer serviced by Qwest, therefore a new primary AN must be designated for the lines remaining with Qwest.
ATN	C	N	Per LSOG 3: Required when the AN field is not populated. Required when the EATN field on the EU form is blank or when a new ATN is required.
SC	R	N	Per Qwest: Qwest generated. Qwest does not expect to see this field populated.
PG_OF_	R	O	
D/TSENT	R	R	
CLEC D/TSENT		N	This field is not contained in LSOG 3.
DDD	R	R	
APPTIME	O	N for Disconnects O for all other activity types	
APT CON		N	This field is not contained in

Field Name	LSOG 3	Qwest	Instructions
DDDO	C	N	LSOG 3: Per LSOG 3: Required when the service is to be suspended and the DDD field is populated with a restoral date. Required for short term service (e.g. trade shows) and the DDD field is populated with an install date. Required for dual service, or when the DDDO is different from the DDD for an outside move.
APPTIME	O	N	
DFDT	C	N	Per LSOG 3: Prohibited when the first position of the REQTYP field is "G", "H" or "J", otherwise optional.
PROJECT	O	O	Per Qwest: Qwest will automatically project manage requests of more than 25 loops or requests requiring out-of-hours cuts. A co-provider can indicate an entry of "Requested;" however, Qwest will not provide project handling unless the previously defined criteria are met.
CHC	O	N for Disconnects O for all other activity types	
TEST		N for Disconnects O for all other activity types	This field is not contained in LSOG 3. Per Qwest: TEST indicates the type of test (if any) that is requested. If CHC = Y, allowed values for TEST are B, N, and blank. If CHC = N or blank, allowed values are A, N, or blank.
REQTYP	R	R	
ACT	R	R	
CONVIND		C for Conv As Specified N for all other activity types	This field is not contained in LSOG 3. Per Qwest: This field is required if converting from a TN based service to a loop.
SUP	C	C	

Field Name	LSOG 3	Qwest	Instructions
EXP	C	N for Disconnects C for all other activity types	Per LSOG 3: Required when desired due date is less than the standard interval for the provisioning of the service, otherwise optional. NO QWEST CONDITIONS LISTED.
AFO	C	N	Per LSOG 3: Required when the associated request form(s) is applicable and sent, otherwise prohibited.
RTR	R	R	
CC	C	N	Per LSOG 3: Required when the CCNA field is "CUS", otherwise optional.
AENG	O	N for Disconnects O for all other activity types	
ALBR	O	N for Disconnects O for all other activity types	
SCA	O	N for Disconnects O for all other activity types	
AGAATH	C	R for New Installs and Conv As Specified N for all other activity types	Per LSOG 3: Required when the customer is acting as an end user agent, otherwise optional.
DATED	C	R for New Installs and Conv As Specified N for all other activity types	Per LSOG 3: Required when the AGAATH field is "Y", otherwise optional.
AUTHNM	O	O for New Installs and Conv As Specified N for all other activity types	
PORTTYP	C	N	Per LSOG 3: Required when the first position of the REQ TYP field is "F" or "M", otherwise prohibited.
ACTL	C	N	Per LSOG 3: Prohibited when the first position of the REQ TYP field is "D", "E", "G", "H" or "J", otherwise optional.
AI	C	N	Per LSOG 3: Required when the APOT

Field Name	LSOG 3	Qwest	Instructions
			field is populated, otherwise prohibited.
APOT	C	N for Disconnects C for all other activity types	Per Qwest: Either the APOT or CFA on the LS form is required on all activity types except D. If an entry appears in this field, then the CFA field on the LS form must be blank. If no entry appears in this field, then an entry is required in the CFA field. Per LSOG 3: Required when the ACTL field does not identify the specific physical termination point of the service, otherwise optional.
LST	C	N	Per LSOG 3: Required when the first position of the REQ TYP field is "F" or "M". Required when the first position of the REQ TYP field is "E" and the entry is different than the end user's local serving office. Otherwise Optional.
LSO	C	N	Per LSOG 3: Required when the RTR field is "C" or "D", the ACT field is "N" or "T" and the first position of the REQ TYP field is "D" or "E". Prohibited when the first position of the REQ TYP field is "K".
TOS	C	R	Per LSOG 3: Required when the ACT field is "N", "C", "T", "V" or "W" and the first position of the REQ TYP field is "E", "F" or "M" and the LTOS on the service specific form is not populated, otherwise optional.
SPEC	O	N	
NC	O	N for Disconnects R for all other activity types	
NCI	C	N for Disconnects R for all other activity types	
CHANNEL	C	N	Per LSOG 3:

Field Name	LSOG 3	Qwest	Instructions
			Prohibited when the NC and NCI fields are populated, otherwise optional.
SEC NCI	O	N for Disconnects R for all other activity types	
RPON	O	C	Per Qwest: This field is required if PG_OF_ is used and does not begin with 01. Otherwise this field is optional. The first LSR in the series would have a blank RPON if the PG_OF_ field is populated. The subsequent LSRs would all have the PON of the first LSR in this RPON field. Optional fields can also represent related PON without a PG_OF_.
RORD	C	O	Per LSOG 3: Required when the provider has pre-assigned a related order number, otherwise prohibited.
LSP AUTH	O	N	
LSP AUTH DATE	C	N	Per LSOG 3: Required when the LSP AUTH field is populated, otherwise optional.
LSP AUTH NAME	C	N	Per LSOG 3: Required when the LSP AUTH field is populated, otherwise optional.
LSPAN	O	N	
CIC	O	N	
CUST	O	N	
BILLING SECTION			
BI1	C	N	Per LSOG 3: Required when more than one BAN field (i.e., BAN1 and BAN2) is populated, otherwise optional.
BAN1	R	R	
BI2	C	N	Per LSOG 3: Required when more than one BAN field (i.e., BAN1 and BAN2) is populated, otherwise optional.
BAN2	C	N	Per LSOG 3: Required when the BI2 field is populated, otherwise prohibited.
BAPC		N	This field is not contained in

Field Name	LSOG 3	Qwest	Instructions
			LSOG 3. No explanation of this field exists in the Qwest I-Chart.
ACNA	R	R	
EBD	O	N	
CNO	O	N	
NRI	O	N	
BILLNM	C	N	Per LSOG 3: Required when the BAN (i.e. BAN1 or BAN2) field is "N", otherwise optional.
SBILLNM	O	N	
TE	C	N	Per LSOG 3: Required when the BAN (i.e. BAN1 or BAN2) field is "N", otherwise optional.
EBP	O	N	
STREET	C	N	Per LSOG 3: Required when the BAN (i.e. BAN1 or BAN2) field is "N", otherwise optional.
FLOOR	O	N	
ROOM	O	N	
CITY	C	N	Per LSOG 3: Required when the BAN (i.e. BAN1 or BAN2) field is "N", otherwise optional.
STATE	C	N	Per LSOG 3: Required when the BAN (i.e. BAN1 or BAN2) field is "N", otherwise optional.
ZIP CODE	C	N	Per LSOG 3: Required when the BAN (i.e. BAN1 or BAN2) field is "N", otherwise optional.
BILLCON	C	N	Per LSOG 3: Required when the BAN (i.e. BAN1 or BAN2) field is "N", otherwise optional.
TEL NO	C	N	Per LSOG 3: Required when the BAN (i.e. BAN1 or BAN2) field is "N", otherwise optional.
VTA	O	N	
CONTACT SECTION			
INIT	R	R	
TEL NO	R	R	
EMAIL	O	O	
FAX NO	O	O	
STREET	R	N	
FLOOR	O	N	
ROOM/MAIL	O	N	
CITY	R	N	

Field Name	LSOG 3	Qwest	Instructions
STATE	R	N	
ZIP CODE	R	N	
IMPCON	O	N for disconnects R for all other activity types	
TEL NO	C	N for Disconnects C for all other activity types	Per LSOG 3: Required when the IMPCON field is populated, otherwise prohibited. Per Qwest: This field must be populated if IMPCON is populated and PAGER is not populated. If PAGER is populated, this field is prohibited.
PAGER	O	N for Disconnects C for all other activity types	Per Qwest: This field must be populated if IMPCON is populated and TEL NO is not populated. If TEL NO is populated, this field is prohibited.
ALT IMPCON	O	N	
TEL NO	C	N	Per LSOG 3: Required when the ALT IMPCON field is populated, otherwise prohibited.
PAGER	O	N	
DSGCON	O	N for Disconnects C for all other activity types	Per Qwest: Required if RTR = D.
DRC	O	N for Disconnects C for all other activity types	Per Qwest: Required if RTR = D and FAX NO is not populated. If FAX NO is populated then DRC is prohibited.
TEL NO	O	C	Per Qwest: If the RTR = D, then the TEL NO is required.
FAX NO	O	N for Disconnects C for all other activity types	Per Qwest: Required if RTR = D and DRC is not populated. If DRC is populated, FAX NO is prohibited.
EMAIL	O	N	
STREET	C	N	Per LSOG 3: Required when the DSGCON field is populated, otherwise optional.
FLOOR	O	N	
ROOM/MAIL STOP	O	N	
CITY	C	N	Per LSOG 3: Required when the DSGCON field is populated, otherwise optional.

Field Name	LSOG 3	Qwest	Instructions
STATE	C	N	Per LSOG 3: Required when the DSGCON field is populated, otherwise optional.
ZIP CODE	C	N	Per LSOG 3: Required when the DSGCON field is populated, otherwise optional.
REMARKS	O	O for Disconnects C for all other activity types	Per Qwest: Required if basic installation with testing is requested. If SCA = Y, then contract # or job # is required in the REMARKS field. Name and TN are required in REMARKS field if an out-of-hours installation is requested, or if CHC = Y, ALBR = Y, AENG = Y, or EXP = Y. Remarks are recommended on all supplements and are preferred if the SUPP = 3 to explain the changes made on the LSR. In the case of a held order, use this field to indicate that this LSR is for a held order. Enter CDLR as a remark if appropriate.
MANUAL IND		C	This field is not contained in LSOG 3. Per Qwest: MANUAL IND must be set to Y if the REMARKS field contains information that must be processed manually.
PENDING ORDER		O	This field is not contained in LSOG 3. No explanation of this field is given in the I-Chart.
HUNTING SECTION			

Field Name	LSOG 3	Qwest	Instructions
<i>LOCNUM</i>	R	N	
<i>HNUM</i>	R	N	
<i>CB</i>	C	N	Per LSOG 3: Required when the REQTYT field is "P" and the HA field is populated, otherwise optional.
<i>HA</i>	C	N	Per LSOG 3: Required when the HTQTY field is populated, otherwise optional.
<i>HID</i>	O	N	
<i>TIP</i>	O	N	
<i>TLI</i>	C	N	Per LSOG 3: Required when the TIP field is populated, otherwise optional.
<i>HNTYP</i>	C	N	Per LSOG 3: Required when the HA field is populated, otherwise optional.
<i>HLA</i>	C	N	Per LSOG 3: Required when the HTQTY field is populated, otherwise optional.
<i>HTSEQ</i>	C	N	Per LSOG 3: Required when the HLA field is populated, otherwise optional.
<i>NOTYP</i>	C	N	Per LSOG 3: Required when the HLA field is populated, otherwise optional.
<i>HTN</i>	C	N	Per LSOG 3: Required when the HLA field is populated, otherwise optional.

End User Form for Unbundled Loop

Field Name	LSOG 3	Qwest	Comments
PON	R	N	
VER	O	O	
AN	C	N	Per LSOG 3: Required when the ATN field is not populated. Required when the EAN field on the EU form is blank or when a new AN is required, otherwise optional.
ATN	C	N	Per LSOG 3:

Field Name	LSOG 3	Qwest	Comments
			<p>Required when the AN field is not populated.</p> <p>Required when the EATN field on the EU form is blank or when a new ATN is required, otherwise optional.</p>
DQTY	C	N	<p>Per LSOG 3:</p> <p>Required when the DISC # field is populated, otherwise optional.</p>
PG_OF_	R	N	
LOCATION AND ACCESS SECTION			
LOCNM	R	R	<p>Per Qwest:</p> <p>If ACT = T, the first occurrence of the Location and Access Section is required. LOCNM must = 1 for this occurrence. This section is the first section entered and this section contains the old end-user address (previous CKL).</p> <p>The second occurrence of the Location and Access Section is required and LOCNM must = 2. This section is the second section entered and this section contains the new end-user address (new CKL).</p> <p>If ACT = T and the above validations are not followed:</p> <p>The order is not valid and is rejected back to the co-provider. For all other valid activities: the first occurrence of the Location and Access Section is required and LOCNM must = 1 and this section is the only section entered and this section contains the new end-user address. If ACT is valid and the above validations are not followed: the order is not valid and is rejected back to the co-provider.</p>
NAME	R	R	

Field Name	LSOG 3	Qwest	Comments
ANV		O for New Installs and Outside Moves N for all other activity types	This field is not contained in LSOG 3. Per Qwest: This field is required for LOCNM2 only. No other explanation of the field is provided.
SAPR	C	N	Per LSOG 3: Optional when the SANO field is populated, otherwise prohibited.
SANO	C	C	Per LSOG 3: Optional when the SASN field is populated, otherwise prohibited. Per Qwest: Required for numbered addresses, otherwise prohibited.
SASF	C	C	Per LSOG 3: Optional when the SASN and SANO fields are populated, otherwise prohibited. Per Qwest: Optional for numbered addresses, otherwise prohibited. Valid only if SANO is populated.
SASD	C	N	Per LSOG 3: Optional when the SASN field is populated, otherwise prohibited.
SASN	R	R	Per Qwest: If TNs were reserved for this CCNA/PON in pre-order, either manually or using IMA, the service address on the LSR must match the service address provided in pre-order. If an invalid address is provided, Qwest will reject the LSR.
SATH	C	N	Per LSOG 3:

Field Name	LSOG 3	Qwest	Comments
			Optional when the SASN field is populated, otherwise prohibited.
SASS	C	N	Per LSOG 3: Optional when the SASN field is populated, otherwise prohibited.
SADLO	O	N	
FLOOR	O	O	
ROOM	O	O	
BLDG	O	O	
AHN	N/A	C	<i>THIS FIELD IS NOT CONTAINED IN LSOG 3.</i> Per Qwest: Required for unnumbered addresses (SANO is not populated for unnumbered addresses), otherwise not applicable. If the Address Not Validated flag, ANV, is set to Y and the address is unnumbered, then this field is optional.
ROUTE	N/A	O	This field is not contained in LSOG 3. No explanation of this field is provided by Qwest in the I-Chart.
BOX	N/A	O	This field is not contained in LSOG 3. No explanation of this field is provided by Qwest in the I-Chart.
CITY	R	R	
STATE	R	R	
ZIP CODE	R	R	
CALA	N/A	C	This field is not contained in LSOG 3. Per Qwest: This field is required if ZIP CODE is not provided. CGE&Y Comment: If ZIP CODE field is required, which it is per

Field Name	LSOG 3	Qwest	Comments
			Qwest, then Qwest's condition for this field is not valid.
LCON	O	R for New Installs, Conv As Specified, and Outside and Inside Moves C for Changes N for Disconnects	Per Qwest: This field is required when the request requires a dispatch and is necessary for all physical changes. For ACT = T, this field is applicable to LOCNUM (2) only.
TEL NO.	O	N for Disconnects C for all other activity types	Per Qwest: This field is required if LCON is populated.
EUMI	O	N	
ACC	O	N for Disconnects C for all other activity types	Per Qwest: This field is required if LSR has Meet Me USOC (VT6NC), or move of a drop of NID (NW1 & NW2-for drop wire, RWW-outside wire work), or if ordering a jack (IWJK-Resale form, LSNP form, LS form, or CRS form) or requesting a new NID (field on Resale, LS form, LSNP form, or CRS form). Instructs installer for above work.
WSOP	O	N	
WSOP TEL NO.	N/A	N	This field is not contained in LSOG 3. No further explanation is provided by Qwest for this field in the I-Chart.
CPE MFR	O	N	
CPE MOD	O	N	
IBT – ISDN BRI Type	O	N	
INSIDE WIRE SECTION			
IWO	O	N	
IW BAN	O	N	
IWCON	C	N	Per LSOG 3: Required when the IWO field is populated, otherwise optional.
TEL NO.	C	N	Per LSOG 3: Required when the IWCON

Field Name	LSOG 3	Qwest	Comments
			field is populated, otherwise prohibited
BILL INFORMATION SECTION			
EAN	C	N	Per LSOG 3: Required for conversion of end user accounts when the EATN field is not populated, otherwise optional
EATN	C	N	Per LSOG 3: Required for conversion of an end user account when the EAN field is not populated, otherwise optional
FBI	O	C for Conv as Specified N for all other activity types	Per Qwest: If converting entire account from Qwest to co-provider, and customer requests a different address for the final Qwest bill, use these fields. When FBI = D, BILLNM, STREET#, STREET NAME, CITY, STATE, ZIP CODE are required fields.
BILLNM	C	C for Conv as Specified N for all other activity types	Per LSOG 3: Required when the FBI field is "D", otherwise optional. Per Qwest: If converting entire account from Qwest to co-provider, and customer requests a different address for the final Qwest bill, use these fields. An entry is required if FBI is present.
SBILLNM	O	O for Conv as Specified N for all other activity types	Per Qwest: If converting entire account from Qwest to co-provider, and customer requests a different address for the final Qwest bill, use these fields. May be populated if BILLNM is present.
STREET	C	N	Per LSOG 3: Required when the FBI field is "D", otherwise optional
SANO	N/A	C for Conv as Specified	This field is not contained in LSOG 3 for the EU form.

Field Name	LSOG 3	Qwest	Comments
		N for all other activity types	Per Qwest: Required for numbered addresses, otherwise not applicable. May be populated if BILLNM is present.
SASF	N/A	O for Conv as Specified N for all other activity types	This field is not contained in LSOG 3 for the EU form. Per Qwest: Optional for numbered addresses, otherwise not applicable. May be populated if BILLNM and SANO are present.
SASN	N/A	C for Conv as Specified N for all other activity types	This field is not contained in LSOG 3 for the EU form. Per Qwest: If converting entire account from Qwest to co-provider, and customer requests a different address for the final Qwest bill, use these fields. Required if BILLNM is present.
FLOOR	O	O for Conv as Specified N for all other activity types	Per Qwest: If converting entire account from Qwest to co-provider, and customer requests a different address for the final Qwest bill, use these fields. May be populated if BILLNM is present.
ROOM	O	O for Conv as Specified and Disconnects N for all other activity types	Per Qwest: If converting entire account from Qwest to co-provider, and customer requests a different address for the final Qwest bill, use these fields. May be populated if BILLNM is present.
CITY	C	C for Conv as Specified N for all other activity types	Per LSOG 3: Required when the FBI field is "D", otherwise optional. Per Qwest:

Field Name	LSOG 3	Qwest	Comments
			If converting entire account from Qwest to co-provider, and customer requests a different address for the final Qwest bill, use these fields. Required if BILLNM is present.
STATE	C	C for Conv as Specified and Disconnects N for all other activity types	Per LSOG 3: Required when the FBI field is "D", otherwise optional. Per Qwest: If converting entire account from Qwest to co-provider, and customer requests a different address for the final Qwest bill, use these fields. Required if BILLNM is present.
ZIP CODE	C	C for Conv as Specified N for all other activity types	Per LSOG 3: Required when the FBI field is "D", otherwise optional. Per Qwest: If converting entire account from Qwest to co-provider, and customer requests a different address for the final Qwest bill, use these fields. Required if BILLNM is present.
BILLCON	C	O for Conv as Specified N for all other activity types	Per LSOG 3 Required when the FBI field is populated and/or this entry is different from the BILLNM field, otherwise optional. Per Qwest: May be populated if BILLNM is present.
TEL NO	C	C for Conv as Specified N for all other activity types	Per LSOG 3: Required when the BILLCON field is populated, otherwise optional.

Field Name	LSOG 3	Qwest	Comments
			Per Qwest: If BILLCON is provided, this entry must have a telephone number.
SSN	O	N	
DISCONNECT SECTION			
DNUM	R	N	
DISC #	O	N	
TER	O	N	
TC OPT	O	N	
TC TO PRI	C	N	Per LSOG 3: Required when the TC OPT field is not "N", otherwise optional.
TCID	N/A	N	This field is not contained in LSOG 3. No further explanation of this field is given in the Qwest I-Chart.
TC NAME	N/A	N	This field is not contained in LSOG 3. No further explanation of this field is given in the Qwest I-Chart.
SECONDARY TRANSFER OF CALLS Section			
TC TO SEC	O	N	
TCID	C	N	Per LSOG 3: Required when split transfer of calls is requested, otherwise prohibited.
TC NAME	C	N	Per LSOG 3: Required when split transfer of calls is requested in the TC OPT field, otherwise prohibited.
TC PER	C	N	Per LSOG 3: Optional when the TC TO field is populated, otherwise prohibited.
REMARKS SECTION			
REMARKS	O	O	
MANUAL IND	N/A	C	This field is not contained in LSOG 3. Per Qwest: MANUAL IND must be set

Field Name	LSOG 3	Qwest	Comments
			<p>to Y by the co-provider if the REMARKS field contains information that must be processed manually.</p> <p>MANUAL IND in N or blank if the REMARKS field does not require manual processing. MANUAL IND is an optional field with a default. BLANK is the EDI default.</p>

Loop Service Form for Unbundled Loop

Field Name	LSOG 3	Qwest Says	Comments
PON	R	<i>N</i>	
VER	O	N	
AN	C	N	<p>Per LSOG 3: Required when the ATN field is not populated. Required when the EAN field on the EU Form is blank or when a new AN is required.</p>
ATN	C	N	<p>Per LSOG 3: Required when the AN field is not populated Required when the EATN field on the EU Form is blank or when a new ATN is required.</p>
LQTY	R	R	<p>Per Qwest:</p> <p>Must match the number of LNUMs.</p>
PG_OF	R	N	
SERVICE DETAILS SECTION			
LOCNM	R	N	
LNUM	R	R	<p>Per Qwest:</p> <p>This entry should be sequentially numbered. LNUM must be unique within a single request/PON and sequential starting with 0001.</p>
LNA	R	R	<p>Per Qwest:</p> <p>This entry identifies the activity involved at the line entry level. The ACT entry mirrors the LNA entry except</p>

Field Name	LSOG 3	Qwest Says	Comments
			<p>when a conversion is requested. When converting at the account level, the LNA can be equal to D or V.</p> <p>When ACT = T, LNA = T</p>
CKR	O	O	
TSP	O	N for Disconnects O for all other activity types	
SAN	O	C	<p>Per Qwest:</p> <p>Required if the first character of TOS = 3. Co-provider is responsible for tracking.</p>
ECCKT	C	N for New Installs C for Conv. As Specified N for all other activity types	<p>Per Qwest:</p> <p>This entry is required on all orders after Qwest makes the initial assignment.</p> <p>If ACT = V this entry is not applicable when converting from Qwest or resale to Unbundled Loop.</p> <p>This entry is required if converting Unbundled Loop from one co-provider to another.</p> <p>Per LSOG 3:</p> <p>Required when the LNA field on the LS Form is "C", "D", "M", "T" or "R", otherwise optional.</p>
CFA	C	N for Disconnects C for all other activity types	<p>Per Qwest:</p> <p>Either APOT on the LSR form or CFA is required on all activity types except ACT = D. If an entry appears in this field, then the APOT field on the LSR form must be blank. If no entry appears in this field, then an entry is required in the APOT field on the LSR form.</p> <p>Per LSOG 3:</p> <p>Required when utilizing Hi-Cap facilities and the</p>

Field Name	LSOG 3	Qwest Says	Comments
			customer has assignment control, otherwise optional.
SYSTEM ID	C	N	Per LSOG 3: Required when the customer has assignment control in a collocation arrangement, otherwise optional.
CABLE ID	C	N	Per LSOG 3: Required when the customer has assignment control in a collocation arrangement, otherwise optional.
SHELF	C	N	Per LSOG 3: Required when the customer has assignment control in a collocation arrangement, otherwise optional.
SLOT	C	N	Per LSOG 3: Required when the customer has assignment control in a collocation arrangement, otherwise optional.
RELAY RACK	C	N	Per LSOG 3: Required when the customer has assignment control in a collocation arrangement, otherwise optional.
CHAN/PAIR	C	N	Per LSOG 3: Required when the customer has assignment control in a collocation arrangement, otherwise optional.
JK CODE	C	N	Per LSOG 3: Required when the JR field is populated, otherwise prohibited.
JKNUM	C	N	Per LSOG 3: Required when the JK CODE field is populated, otherwise optional.
JK POS	C	N	Per LSOG 3: Required when the JK CODE field is populated, otherwise optional.
JR	O	N	

Field Name	LSOG 3	Qwest Says	Comments
NIDR	O	N for Disconnects O for all other activity types	Per Qwest: The NIDR is a Y if a NID is requested. When the LNA = D, NIDR is not applicable.
IWJK	C	N for Dis connects O for all other activity types	Per LSOG 3: Required when the IWJQ field is populated, otherwise prohibited. Per Qwest: Valid only in states where co-provider has negotiated inside wiring. This entry is not applicable when LNA = D.
IWJQ	C	N for Disconnects C for all other activity types	Per LSOG 3: Required when the IWJK field is populated, otherwise prohibited. Per Qwest: Same instructions as in LSOG 3.
DISCONNECT SECTION			
AENG	O	N for Disconnects O for all other activity types	
ALBR	O	N for Disconnects O for all other activity types	
SCA	O	N for Disconnects O for all other activity types	
AGAATH	C	R for New Installs and Conv As Specified N for all other activity types	Per LSOG 3: Required when the customer is acting as an end user agent, otherwise optional.
DATED	C	R for New Installs and Conv As Specified N for all other activity types	Per LSOG 3: Required when the AGAATH field is "Y", otherwise optional
AUTHNM	O	O for New Installs and Conv As Specified N for all other activity types	
PORTTYP	C	N	Per LSOG 3:

Field Name	LSOG 3	Qwest Says	Comments
			Required when the first position of the REQTYT field is "F" or "M", otherwise prohibited.
ACTL	C	N	Per LSOG 3: Prohibited when the first position of the REQTYT field is "D", "E", "G", "H" or "J", otherwise optional
AI	C	N	Per LSOG 3: Required when the APOT field is populated, otherwise prohibited
APOT	C	N for Disconnects C for all other activity types	Per Qwest: Either the APOT or CFA on the LSR form is required on all activity types except D. If an entry appears in this field, then the CFA field on the LSR form must be blank. If no entry appears in this field, then an entry is required in the CFA field. Per LSOG 3: Required when the ACTL field does not identify the specific physical termination point of the service, otherwise optional.
LST	C	N	Per LSOG 3: Required when the first position of the REQTYT field is "F" or "M". Required when the first position of the REQTYT field is "E" and the entry is different than the end user's local serving office, otherwise optional.
LSO	C	N	Per LSOG 3: Required when the RTR field is "C" or "D", the ACT field is "N" or "T" and the first position of the REQTYT field is "D" or "E". Prohibited when the first position of the REQTYT field is "K".
TOS	C	R	Per LSOG 3: Required when the ACT field is "N", "C", "T", "V" or "W" and the first position of the REQTYT field is "E", "F" or

Field Name	LSOG 3	Qwest Says	Comments
			"M" and the LTOS on the service specific form is not populated, otherwise optional.
SPEC	O	N	
NC	O	N for Disconnects R for all other activity types	
NCI	C	N for Disconnects R for all other activity types	
CHANNEL	C	N	Per LSOG 3: Prohibited when the NC and NCI fields are populated, otherwise optional.
SEC NCI	O	N for Disconnects R for all other activity types	
RPON	O	C	Per Qwest: This field is required if PG_OF_ is used and does not begin with 01. Otherwise this field is optional. The first LSR in the series would have a blank RPON if the PG_OF_ field is populated. The subsequent LSRs would all have the PON of the first LSR in this RPON field. Optional fields can also represent related PON without a PG_OF_.
RORD	C	O	Per LSOG 3: Required when the provider has pre-assigned a related order number, otherwise prohibited.
LSP AUTH	O	N	
LSP AUTH DATE	C	N	Per LSOG 3: Required when the LSP AUTH field is populated, otherwise optional.
LSP AUTH NAME	C	N	Per LSOG 3: Required when the LSP AUTH field is populated, otherwise optional.
LSPAN	O	N	
CIC	O	N	
CUST	O	N	
BILLING SECTION			
BI1	C	N	Per LSOG 3: Required when more than one BAN field (i.e., BAN1 and BAN2) is populated,

Field Name	LSOG 3	Qwest Says	Comments
			otherwise optional.
BAN1	R	R	
BI2	C	N	Per LSOG 3: Required when more than one BAN field (i.e., BAN1 and BAN2) is populated, otherwise optional.
BAN2	C	N	Per LSOG 3: Required when the BI2 field is populated, otherwise prohibited.
BAPC		N	This field is not contained in LSOG 3. No explanation of this field exists in the Qwest I-Chart.
ACNA	R	R	
EBD	O	N	
CNO	O	N	
NRI	O	N	
BILLNM	C	N	Per LSOG 3: Required when the BAN (i.e. BAN1 or BAN2) field is "N", otherwise optional.
SBILLNM	O	N	
TE	C	N	Per LSOG 3: Required when the BAN (i.e. BAN1 or BAN2) field is "N", otherwise optional.
EBP	O	N	
STREET	C	N	Per LSOG 3: Required when the BAN (i.e. BAN1 or BAN2) field is "N", otherwise optional.
FLOOR	O	N	
ROOM	O	N	
CITY	C	N	Per LSOG 3: Required when the BAN (i.e. BAN1 or BAN2) field is "N", otherwise optional.
STATE	C	N	Per LSOG 3: Required when the BAN (i.e. BAN1 or BAN2) field is "N", otherwise optional.
ZIP CODE	C	N	Per LSOG 3: Required when the BAN (i.e. BAN1 or BAN2) field is "N", otherwise optional.
BILLCON	C	N	Per LSOG 3: Required when the BAN (i.e. BAN1 or BAN2) field is "N", otherwise optional.
TEL NO	C	N	Per LSOG 3: Required when the BAN (i.e.

Field Name	LSOG 3	Qwest Says	Comments
			BAN1 or BAN2) field is "N", otherwise optional.
VTA	O	N	
CONTACT SECTION			
INIT	R	R	
TEL NO	R	R	
EMAIL	O	O	
FAX NO	O	O	
STREET	R	N	
FLOOR	O	N	
ROOM/MAIL	O	N	
CITY	R	N	
STATE	R	N	
ZIP CODE	R	N	
IMPCON	O	N for disconnects R for all other activity types	
TEL NO	C	N for Disconnects C for all other activity types	Per LSOG 3: Required when the IMPCON field is populated, otherwise prohibited. Per Qwest: This field must be populated if IMPCON is populated and PAGER is not populated. If PAGER is populated, this field is prohibited.
PAGER	O	N for Disconnects C for all other activity types	Per Qwest: This field must be populated if IMPCON is populated and TEL NO is not populated. If TEL NO is populated, this field is prohibited.
ALT IMPCON	O	N	
TEL NO	C	N	Per LSOG 3: Required when the ALT IMPCON field is populated, otherwise prohibited.
PAGER	O	N	
DSGCON	O	N for Disconnects C for all other activity types	Per Qwest: Required if RTR = D.
DRC	O	N for Disconnects C for all other activity types	Per Qwest: Required if RTR = D and FAX NO is not populated. If FAX NO is populated then DRC is prohibited.
TEL NO	O	C	Per Qwest: If the RTR = D, then the TEL NO is required.
FAX NO	O	N for Disconnects C for all other	Per Qwest: Required if RTR = D and

Field Name	LSOG 3	Qwest Says	Comments
		activity types	DRC is not populated. If DRC is populated, FAX NO is prohibited.
EMAIL	O	N	
STREET	C	N	Per LSOG 3: Required when the DSGCON field is populated, otherwise optional.
FLOOR	O	N	
ROOM/MAIL STOP	O	N	
CITY	C	N	Per LSOG 3: Required when the DSGCON field is populated, otherwise optional.
STATE	C	N	Per LSOG 3: Required when the DSGCON field is populated, otherwise optional.
ZIP CODE	C	N	Per LSOG 3: Required when the DSGCON field is populated, otherwise optional.
REMARKS	O	O for Disconnects C for all other activity types	Per Qwest: Required if basic installation with testing is requested. If SCA = Y, then contract # or job # is required in the REMARKS field. Name and TN are required in REMARKS field if an out-of-hours installation is requested, or if CHC = Y, ALBR = Y, AENG = Y, or EXP = Y. Remarks are recommended on all supplements and are preferred if the SUPP = 3 to explain the changes made on the LSR. In the case of a held order, use this field to indicate that this LSR is for a held order. Enter CDLR as a remark if appropriate.
MANUAL IND	N/A	C	This field is not contained in LSOG 3. Per Qwest: MANUAL IND must be set to Y if the REMARKS field contains information that

Field Name	LSOG 3	Qwest Says	Comments
			must be processed manually.
PENDING ORDER	N/A	O	This field is not contained in LSOG 3. No explanation of this field is given in the I-Chart.
HUNTING SECTION			
<i>LOCNUM</i>	R	N	
<i>HNUM</i>	R	N	
<i>CB</i>	C	N	Per LSOG 3: Required when the REQTP field is "P" and the HA field is populated, otherwise optional.
<i>HA</i>	C	N	Per LSOG 3: Required when the HTQTY field is populated, otherwise optional.
<i>HID</i>	O	N	
<i>TIP</i>	O	N	
<i>TLI</i>	C	N	Per LSOG 3: Required when the TIP field is populated, otherwise optional.
<i>HNTYP</i>	C	N	Per LSOG 3: Required when the HA field is populated, otherwise optional.
<i>HLA</i>	C	N	Per LSOG 3: Required when the HTQTY field is populated, otherwise optional.
<i>HTSEQ</i>	C	N	Per LSOG 3: Required when the HLA field is populated, otherwise optional.
<i>NOTYP</i>	C	N	Per LSOG 3: Required when the HLA field is populated, otherwise optional.
<i>HTN</i>	C	N	Per LSOG 3: Required when the HLA field is populated, otherwise optional.

Appendix R - Arizona §271 Performance Indicator Definitions (PID) Data Element Summary Report

Arizona §271 Test

Arizona §271 Performance Indicator Definitions (PID) Data Element Summary Report

A joint report prepared by:

**Cap Gemini Telecom Media & Networks U.S., Inc.
Hewlett-Packard Consulting**

March 12, 2002

Version 6.0

Prepared For:

Arizona Corporation Commission

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Document Control Sheet

Version	Date	Reason
1.0	1/19/02	Draft Version 1.0 distributed to HP, ACC and DCI for review
2.0	2/20/02	Draft Version 2.0 distributed to TAG with updates
3.0	2/21/02	Draft Version 3.0 distributed to TAG with accepted updates
4.0	2/25/02	Draft Version 4.0 distributed to TAG with minor revisions
5.0	2/26/02	Final Version 5.0 distributed to TAG with accepted revisions
6.0	3/12/02	Final Version 6.0 incorporated into Final OSS Report as Appendix ?

Proprietary Notice

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1 PID Data Element Summary Report

1.1 Background

This report is intended to satisfy an Arizona Test Advisory Group (TAG) request for detailed information on all data elements required to produce performance measurement results in compliance with the Arizona §271 Service Performance Indicator Definitions, version 6.3 (PID 6.3). The second part of this request is to identify which of these elements are available to a Competitive Local Exchange Carrier (CLEC) via information returned from Qwest through the gateway notifiers, which were reconciled to the corresponding element in the Qwest adhoc dataset. In addition, other critical data elements that were captured by the Pseudo-CLEC through its day-to-day operations are identified within this report along with the means by which the element was verified or compared to the corresponding Qwest adhoc element. Finally, all other data required to produce performance measures results that comply with the PID are identified and designated as available only through the Qwest adhoc data. Any validation of these elements was performed outside the functionality test. This section of the report provides the background information from which this request originates.

This document has been prepared at the request of the Arizona Corporation Commission (ACC) and its consultant, Doherty Company Incorporated (DCI). This request was generated in response to a requirement contained within Section 7.3.4 of the Arizona §271 Test Standards Document (TSD) that the Test Administrator (TA) perform an independent calculation of the functionality test measures designated in Appendix C of the Arizona §271 Master Test Plan (MTP) using Functionality Test Data provided by the Pseudo-CLEC. Results obtained from this data would then be used to compare against the TA's independent calculation of the same measures using raw data provided by Qwest (adhoc data). All functionality test measures had successfully passed the Performance Measurement Audit (PMA) prior to commencement of the OSS test ensuring that Qwest was properly gathering the data, applying business rules and accurately calculating the measures. The start of the functionality test was delayed six months in order to ensure the accuracy of Qwest's performance measurement reporting for these functionality performance measures. The purpose of this TSD requirement is to validate that Qwest's adhoc dataset contains all records submitted by the Pseudo-CLEC and only those records and that the data elements captured by Qwest's source systems used to calculate these performance measures are actually what is experienced and could be recorded by a CLEC.

Given that Qwest does not provide and a CLEC cannot independently gather all the data elements necessary to produce results as defined by the Arizona

§271 PID 6.3, CGE&Y considered two options for satisfying this TSD requirement. These two options were as follows:

- (a) Use independently gathered Functionality Test Data to calculate aggregated measures, ignoring PID definitions, business rules and exclusions while calculating the same measure with the Qwest adhoc data.
- (b) Calculate PID compliant measures using the Qwest adhoc data. Reconcile all data elements captured by the Pseudo-CLEC through the gateway notifiers with the Qwest adhoc data to ensure all records are captured and that the adhoc data does not contain any additional records. All discrepancies will be noted using the Incident Work Order (IWO) process described in Appendix I of the TSD. CGE&Y will then replace data elements in the adhoc data with discrepant Pseudo-CLEC data element and recalculate the measure.

It was the opinion of Cap Gemini Telecom Media & Networks U.S., Inc. (hereinafter "CGE&Y") that, although both methods satisfied the TSD requirement, method (a) only produced results from two different data sets, providing no explanation for any differences that may occur. Even though there is no requirement to justify different results, CGE&Y believed that method (b) was the more efficient, complete and thorough alternative and could also be used to make a determination as to the level of performance Qwest provided the Pseudo-CLEC during the test. The method CGE&Y chose was to calculate PID compliant measures with the Qwest adhoc data using the processes described and validated in the Final PMA Report. These results are published in Section 2.5 of the Operations Support Systems (OSS) Final Report. This allowed for timely issuance of IWOs for functionality test performance that did not meet parity or benchmark requirements. CGE&Y then proceeded to compare the Functionality Test Data to the adhoc data. IWOs were issued for all discrepancies, which led to an investigation and resolution. This process is documented in CGE&Y's Data Reconciliation Report, which supplements Section 2.5 and is contained within Appendix L of the OSS Final Report. When material differences could not be explained, the adhoc data element was replaced with the Pseudo-CLEC data element and a new calculation was made thereby producing results using the Functionality Test Data. Both sets of results are presented in Section 2.5 of the OSS Final Report.

The CGE&Y Statistical and Performance Measurement Audit Teams believe that this method meets the criteria defined in the TSD and is the most effective in identifying, investigating and resolving data discrepancies. Calculating PID compliant measures using the Pseudo-CLEC data and

Qwest's adhoc data for the missing data elements results in the independent calculation required by the TSD. CGE&Y's asserts that the data reconciliation approach accomplishes the following goals:

- ◆ Meets the criteria defined in the TSD by providing an independent evaluation of the Qwest adhoc data and the Pseudo-CLEC collected data
- ◆ Provides IWOs for measures that did not meet the required performance standard or benchmark to the TAG in a timely manner
- ◆ Evaluates the accuracy and completeness of the source data used by Qwest in producing monthly performance measurement results
- ◆ Provides IWOs where discrepancies exist between the two data sources for investigation, explanation and resolution

However, this method raised questions from the Arizona Test Advisory Group (TAG) concerning why the PID measures could not be calculated from the Pseudo-CLEC test data. In an effort to support its position, CGE&Y produced a matrix of all disaggregated measures listed in Appendix C of the MTP along with *one* data element required for calculating the measure that Qwest did not supply to the Pseudo-CLEC and does not supply CLECs in the normal course of business. This comprehensive report originates as a result of that original matrix and a recommendation in CGE&Y's Final Report that Qwest provide more detail to competitors concerning performance measurement data.

1.2 Purpose

The commission has requested CGE&Y to work with Hewlett-Packard Consulting (HP) to produce a more complete matrix containing all data elements that are required to produce PID compliant disaggregated results and specifically note which elements are not provided by Qwest to the CLEC or independently gathered by the CLEC. The purpose of this task is to validate the method CGE&Y used to satisfy the requirements of Section 7.3.4 of the TSD. This request consists of the following:

- ✓ Provide a list of the data elements from the Qwest adhoc data required to calculate the performance measures as defined in the PID 6.3 and included in Appendix C of the MTP to HP and the ACC.
- ✓ HP will compare this list to the set of data elements obtained by the Pseudo-CLEC during the functionality test from the gateway notifiers to determine the missing elements.

- ✓ A determination will then be made as to whether the missing element was independently gathered by the Pseudo-CLEC from a source other than the notifiers and verified with the Qwest adhoc by a means other than the data reconciliation process.
- ✓ A determination will be made as to which PID 6.3 measures, if any, can be calculated independently with Pseudo-CLEC data.
- ✓ Any new data element identified as captured by the Pseudo-CLEC will be reconciled with the Qwest adhoc data and CGE&Y's Data Reconciliation Report will be updated accordingly.
- ✓ Additional discrepancies found from newly identified data elements will be documented through the IWO process.
- ✓ Section 2.5 of the OSS Final Report will be updated as required.

1.3 Scope

The scope of this document is to provide an in-depth analysis of the availability of data elements required by CGE&Y to calculate the PID 6.3 measurements. The analysis specifically examined HP databases and manual paper records (e-mail and fax) for existence of the data elements identified in Appendix A – Missing Functionality Data Elements HP Spreadsheet provided by CGE&Y.

Finally, this document provides findings gathered from the analysis that was performed. These findings are presented in an objective manner supported by the TA's and HP's practical §271 experience.

1.4 Process

The processes used for this request are as follows:

Task 1:

Provide a list of all required data elements used for the measure calculations defined in section 2.5 of the Arizona §271 functionality report.

Process:

Based on the information contained in the Qwest adhoc and the required elements from the CGE&Y code, construct a spreadsheet with specific elements required from the Pseudo-CLEC to calculate the PID 6.3 measures, sub-measures and benchmarks contained in Appendix "C" of the MTP.

Task 2:

Compare list to the set of data elements gathered by the Pseudo-CLEC from Qwest's gateway notifiers during the functionality test to determine the missing elements.

Process:

HP will take the identified elements and compare it to all captured information from Qwest's gateway notifiers stored in their systems.

Task 3:

From the list of the missing elements, determine whether the Pseudo-CLEC was able to capture the required information or a reasonable alternative independently as a result of test activities.

Process:

HP and CGE&Y will work jointly to determine whether the remaining elements required to calculate PID 6.3 measure results were obtained independently as a result of testing. The result of this comparison will determine what data elements required to calculate PID 6.3 measures are independently collected by the Pseudo-CLEC to make an ultimate decision of whether these measures can be calculated solely from the Pseudo-CLEC data.

Task 4:

Reconcile any new data elements identified from Pseudo-CLEC with the Qwest adhoc.

Process:

CGE&Y will collect all data from HP not previously collected and compare each data element to the corresponding Qwest adhoc data field. CGE&Y will update the Data Reconciliation Report with all findings.

Task 5:

Prepare IWOs as appropriate and forward to Qwest for investigation.

Process:

Any new discrepancies identified as a result of Task 4 will be documented using the IWO process and forwarded to the TAG for Qwest's investigation and response.

Task 6:

Update Section 2.5 of the OSS Final Report.

Process:

CGE&Y will update Section 2.5 of the OSS Final Report to reflect any discrepancies that are not satisfactorily explained. In addition, any measure found to contain all required data elements will be

calculated solely from the Functionality Test Data and Section 2.5 of the OSS Final Report will be updated accordingly.

1.5 Findings

HP reviewed approximately 326 of the 375 data elements contained in Appendix A - Missing Functionality Data Elements HP Spreadsheet provided by CGE&Y. The spreadsheet is constructed in accordance with the data source required to calculate the measure.

Before the data source is identified:

- **Data Source or PID Measurement Code** (Column 1) contains the data source (CRM, RSOR, etc.) and **Description** (Column 2) reflects all the measures calculated using that data source (e.g., CRM is the data source used to calculate PO-2 through PO-5).
- **Incorporate Information from Following Other Rows** (Column 3) indicates which elements, exclusions, etc., should be incorporated (e.g., incorporate all elements listed above for CRM).
- **Required Data Elements / Exclusions** (Column 4) lists the Qwest adhoc data elements required to calculate the measures from that data source and **Element Description / Notes** (Column 5) displays the accompanying description.
- **Corresponding Pseudo-CLEC Data Element** (Column 6) contains the definition of the corresponding Pseudo-CLEC data element. The presence of a “Y” in **Pseudo-CLEC Data Available via the Gateway Notifiers** (Column 7) indicates that the data element was provided to HP via the gateway notifiers.
- **Pseudo-CLEC Data Available via Other Means** (Column 8) will display a “Y” to reflect that the required data element was captured as part of the functionality test and verified independently of the Qwest adhoc data. An explanation of this independent verification is found in the last **HP/CGE&Y Comments...** column (Column 10).
- **Data Available Qwest Adhoc Only** (Column 9) will contain a “Y” to show those data elements available solely through the Qwest adhoc data. No independent verification from the functionality test was possible.

Once the data source is identified:

- **Data Source or PID Measurement Code** (Column 1) lists each individual performance measurement and **Description** (Column 2) contains a description of that particular measure.

- **Incorporate Information from Following Other Rows** (Column 3) refers the reader to any other data elements, in addition to those listed that would be necessary to calculate the measure in accordance with the PID.
- The remaining columns serve the same purpose as describe above for the data source.

One important note: For those data elements that were not available to HP via information returned from the gateway notifiers, CGE&Y looked at any other data independently gathered by the Pseudo-CLEC or a close alternative (e.g., the use of LSR submit time as opposed to Qwest's LSR receipt time or application date) to make a comparison to the Qwest adhoc data element. This explanation is documented in the last column under each data element shown as not received through the gateway (i.e., the "...Other Means" column is valued with a 'Y'). Those data elements obtained solely from the Qwest adhoc because the corresponding element was not obtained by HP as a result of testing, are also noted and readily identified by a 'Y' (yes) in the "Data Available Qwest Adhoc Only" column.

The HP findings are as follows:

- ◆ HP's initial assessment revealed that there were 49 data elements shown by CGE&Y to be not applicable to this exercise. There were 140 data elements available through the gateway notifiers (data value = Y in column 7 of Appendix A) for PID measurement calculation by the TA. There were 88 other data elements that were available to the TA through the functionality test (data value = Y in column 8 of Appendix A). There were 137 data elements that are not available (data value = Y in column 9 of Appendix A) of which the TA had to rely solely on the Qwest adhoc data for performing PID calculations.
- ◆ HP provided the TA with all data elements identified by CGE&Y, which were documented in the HP/CGE&Y Interface Requirements document (sign off was obtained from CGE&Y and HP).
- ◆ The joint review between CGE&Y and HP clarified issues that affect the total number of data elements that are available to the TA.

CGE&Y, in concert with HP, have reviewed HP's findings reflected in Appendix A - Missing Functionality Data Elements HP Spreadsheet to this document and have come to the following conclusions:

- ◆ Of the 137 data elements where the Qwest adhoc is reflected as the sole source, thirty-five of these were due to data not received by the Pseudo-CLEC because of unplanned troubles. These are noted in Appendix A as Y-UP for

“unplanned troubles” and “planned troubles” are noted as Y-P. Eliminating these unplanned troubles and taking into account duplication, there are actually only 16 data elements that were not captured by the Pseudo-CLEC.

These 16 data elements are:

- ☐ Flow through indicator
- ☐ Reason for a missed appointment (PMA)
- ☐ Time an order is completed in WFA (Date was validated but actual time came solely from the adhoc)
- ☐ Dispatch of technician (PMA)
- ☐ Designed service in high or low density area (PMA)
- ☐ Non-Designed service in MSA (PMA)
- ☐ Due date change due to facility reasons or not
- ☐ Application date (compared against Pseudo-CLEC LSR submit time and Pseudo-CLEC captured FOC time in FTRC)
- ☐ Trouble received date and time (compared against Pseudo-CLEC trouble submitted time in FTRC)
- ☐ Trouble cleared date and time (compared against Pseudo-CLEC trouble cleared time in FTRC)
- ☐ Designed services cleared time
- ☐ Time taken for no access delays for Designed services
- ☐ Was a trouble ticket not submitted by the Pseudo-CLEC
- ☐ Was a trouble ticket system generated
- ☐ Was a trouble ticket opened by a technician for internal use
- ☐ Inventory of lines / circuits installed at the end of each calendar month by product (PMA)

Four of these 16 data elements will be verified through CGE&Y’s independent calculation of functionality test measures that will be provided in the Functionality Test Results Comparison Report (FTRC) leaving only 12 data elements not validated by the TA through the functionality test. CGE&Y notes however, that the PMA validated many of these remaining data elements.

- ◆ PID 6.3 Billing measures, OP-7 and OP-13 can be calculated independently using the Pseudo-CLEC captured data. This is reflected in Section 2.5 of the OSS Test Final Report.
- ◆ Qwest does not provide a CLEC with at least one of the data elements required to produce performance measurement results for the Functionality Test Measures (exclusive of the Billing measures, OP-7 and OP-13) as they are described and audited in the Final PMA Report.
- ◆ As a result of this effort, data elements have been identified that were provided or can be obtained by the Pseudo-CLEC and used to reconcile with

the corresponding Qwest adhoc data element. These data elements are listed in Appendix A to this report.

Tasks 1 through 3 described under Section 1.4 of this report have been completed. However, as a result of this joint effort, the TA has identified several critical data elements or a reasonable alternative (i.e., LSR submitted times observed by the Pseudo-CLEC could be used as a substitute for the PID required application date in calculating OP-4) that was gathered by the Pseudo-CLEC as part of testing but was not included as part of the data reconciliation process. Based on this finding, CGE&Y will develop measures that will utilize the Pseudo-CLEC collected data to perform independent calculations in order to compare with results generated by using the adhoc data to calculate the same measure. CGE&Y will produce a separate report where these aggregated measure results will be presented for both the Pseudo-CLEC data and Qwest adhoc data in order to validate these other key data elements. Tasks 4 through 6 described in Section 0 of this report will be completed and documented in CGE&Y's Functionality Test Results Comparison (FTRC) Report.

Appendix A - Missing Functionality Data Elements HP Spreadsheet

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
PO-1			N/A	N/A	Calculated in the Capacity Test				Calculated in the Capacity Test
CRM	Data Source for following PID measurements: PO-2 (Flowthru), PO-5 (FOC on Time), PO-3 (Rejection Interval), PO-4 (Pct Rejects)		Transaction Identification		PON VER LSRID / GUI LSRID / EDI transmission date receipt date transaction type clearly indicated and populated on every LSR, SU, FOC, REJ Cancellation notification / LSR Cancellation notification / SU Cancellation notification / FOC Cancellation notification / REJ Request Type	Y Y Y Y Y	 Y Y Y Y Y		Yes, in EDI/GUI the PON, transmission date, transaction type are clearly present on the LSR. Yes, in EDI/GUI the VER is present on LSR Supplementals. Yes, in EDI/GUI the Cancellations are present on LSR Supplementals. No, in EDI/GUI the Cancellations may not be clearly noted on responses from Qwest (FOC, SU, REJ). <i>Cancellations were extracted from the scripts and on site observations at HP.</i> Yes, in EDI/GUI the PON (VER if applicable), transmission date, are clearly present on the response documents from Qwest. Yes, in GUI the LSRID is present on all response from Qwest. No, in EDI the LSRID is not present on all responses from Qwest. It is present on the FOC and SU, it is missing from REJ. <i>The LSRID/order# was extracted from the FOC and recorded in the CGE&Y server.</i> No, in EDI/GUI the Qwest receipt date is not present on any documents. Obtained from the Adhoc, however the LSR submit time was validated in the alternative. Yes, in EDI/GUI the transaction type (LSR, FOC, SOC, REJ) is present identifying the type of document. Yes, in EDI the transaction type (SU) is present identifying the type of document. No, in GUI the SU is not a valid response from Qwest. <i>CGE&Y used them when we had them but if not, we pulled</i>

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
									<i>from the adhoc.</i> Yes, in EDI/GUI the REQ TYP is present on the LSR. No, in EDI/GUI the REQ TYP is not present on any responses from Qwest. <i>The req typ was available from the test scenario and script code.</i>
			Exclusion 1: Duplicate LSR Number		LSR number for every LSR submitted	Y			Yes, in EDI/GUI the PON is present on every LSR that is submitted to Qwest. Yes, in EDI/GUI the PON is returned on every response from Qwest (FOC, SOC, REJ, SU (EDI only)). Yes, in EDI/GUI the LSRID is present on responses from Qwest (FOC, SOC, REJ, SU (EDI only) No, in EDI/GUI the LSRID is not present on the LSR. <i>CGE&Y obtained this information from the FOC.</i> No, in GUI the PON number can be duplicated. <i>HP controlled the PON number assignments.</i> Yes, after July 10, 2001 HP prohibited duplicate PON numbers. No, before July 10, 2001 HP allowed duplicate PON numbers. <i>CGE&Y caught these in the data reconciliation process.</i>
			Exclusion 2: Cancelled request	If the request is ever cancelled, all records for that LSR are excluded from CRM measures	Supplemental LSR for Cancel Request including all relevant order numbers, PONs, and clearly indicating that it is a Cancel Request.		Y		Yes, The LSR contains the Cancel Request indicator but is not returned in the response transactions. CGE&Y did obtain this information from the on site personnel.
			Exclusion 3: Stop Date/Time before Start Date/Time		Start=LSR receipt (by Qwest) datetime Stop=Transmission (from Qwest) time of all FOC, Reject, Cancel notifications	Y	Y		No, for EDI/GUI the LSR receipt date is not present on any transactions <i>CGE&Y obtained this data from the adhoc, however this data field was compared with the pseudo-CLEC LSR submit time in the Functionality Test Results Comparison Report (FTRC).</i>

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
									Yes, the stop (from Qwest) time of all FOC, Reject, Cancel notifications is provided in EDI files
			Exclusion 4: Invalid CLEC ID		N/A	N/A	N/A	N/A	N/A
			Exclusion 5: Invalid State		N/A	N/A	N/A	N/A	N/A
			Exclusion 6: Missing CLEC ID		N/A	N/A	N/A	N/A	N/A
			Exclusion 7: Invalid Product Type	There are only certain product types that are being tracked in the CRM system. If the product type is a '2' (Third Party), '3' (INP), '5' (Combined), '6' (Admin), '7' (PAL), '9' (Error), then the record is flagged as a data exception Type 7.	Product in Script and USOC submitted by P-CLEC incorporated into every LSR, FOC, REJ, and Status Update over 12/21/00 through 07/06/01 timeframe		Y		Yes, in EDI/GUI the product/USOC are present in the LSR No, in EDI/GUI the product/USOC are not returned by Qwest in FOC, SU (EDI only) or REJ. <i>The product codes from the adhoc were used for the input data, however, CGE&Y validated through the functionality test that what was on the test script was correct on the LSR, which matched the CSR and what was actually billed. Basically validating the Qwest adhoc product code.</i>

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
			Exclusion 8: Missing Flowthru Indicator	All CRM originated data has a flow-through indicator (flwthr) of Full ('F'), Partial/Manual (M), Reject (R), Cancelled (C), Manual/IIS (I) or no terminating state (G). The retail comparative data may have a flow-through indicator that is blank or null. If a record has a flow-through indicator that is missing, the record is flagged as a data exception Type 8.	Flowthru indicator provided on every status update			Y	No, Qwest does not provide any flow-through information within a data element. <i>Flow-through indicators were not present for the entire test. We did get all of them from EDI after 6.0 implemented. A spot check told us that the indicators in the adhoc were accurate with the ones we were able to capture. Flow-through versus non-flowthru was calculated from the adhoc.</i>
			Exclusion 9: Test CLEC		N/A	N/A	N/A	N/A	N/A
PO-2A-1 (IMA/GUI) PO-2A-2 (IMA/EDI)	Measures the percentage of all electronic LSRs that flow from the specified electronic gateway interface to the Service Order Processor (SOP) without any human intervention.	incorporate all elements listed above for CRM	Contribution: whether the LSR encountered manual processing between receipt and first terminating state (FOC issuance, Rejection, or Cancellation).	Qwest keeps the userid of Qwest personnel involved in handling any transaction on the LSR. If no userids present on any record from Receipt thru first terminating state, then record flowed through automatically.	Status update incorporating flowthru indicator as described above in CRM exclusion 8			Y	No, there is not a specific field that indicates whether an item was flow through. <i>Flow-through indicators were not present for the entire test. We did get all of them from EDI after 6.0 implemented. A spot check told us that the indicators in the adhoc were accurate with the ones we were able to capture. Flow-through versus non-flowthru was calculated from the adhoc.</i> Yes, flow through eligibility can be determined from the LSR FCIF/EDI/GUI data.
			Elig: Date LSR Received		LSR receipt (by Qwest) datetime		Y		No, LSR receipt date/times are not provided by Qwest. <i>CGE&Y obtained this data from the adhoc, however this</i>

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
									<i>data field was compared with the pseudo-CLEC LSR submit time in the Functionality Test Results Comparison Report (FTRC).</i>
			Elig: Cancellation & Rejection notices	If these occurred before first FOC, LSR inelig for PO-2	Clearly distinguishable Cancellation and Rejection notifications and Status Updates indicating Cancellation or Rejection with datetimes these were transmitted by Qwest		Y		Yes, IMA/GUI rejections are clearly noted as rejects. Yes, cancellations are clearly noted as such in the LSR. No, cancellations are not noted in responses documents (FOC, SU (EDI only), REJ) from Qwest. Yes, The LSR contains the Cancel Request indicator but is not returned in the response transactions. CGE&Y did obtain this information from the on site personnel.
			Elig: First FOC notice		FOC transmission by Qwest datetime	Y			HPC'S records contain the FOC transmission by Qwest date/time
			Elig / Disagg: Product	Resale: Centrex 21, Centrex Plus / Centron/ Centrex Prime, Analog PBX DID, PBX (TFB, TFU, TCG usocs), DS0, DS1, DS3, ISDN PRI T1, ISDN PRI Trunk, ISDN BRI, POTS, Frame Relay, Megabit, Designed Trunks. UNE-P POTS Unbundled Loops with and without Number Portability Local Number Portability	Product in Script and USOC submitted by P-CLEC incorporated into every LSR, FOC, REJ, and Status Update over 12/21/00 thru 07/06/01 timeframe		Y		Yes, in EDI/GUI the product/USOC are present in the LSR No, in EDI/GUI the product/USOC are not returned by Qwest in FOC, SU (EDI only) or REJ. <i>The product codes from the adhoc were used for the input data, however, CGE&Y validated through the functionality test that what was on the test script was correct on the LSR, which matched the CSR and what was actually billed. Basically validating the Qwest adhoc product code.</i>

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
			Elig: Requisition Type not 'JB' or 'HB'	I didn't find any JB's. HB's appear to be LISTING requisitions.	Directory Change Only? [Y/N] populated on all Script, LSR,SU,FOC, REJ, Cancel notifications		Y		Yes, the product is in the LSR. No, the product is not returned by Qwest in any response document. <i>The product codes from the adhoc were used for the input data, however, CGE&Y validated through the functionality test that what was on the test script was correct on the LSR, which matched the CSR and what was actually billed. Basically validating the Qwest adhoc product code.</i>
			Disaggregation	Whether FOC was transmitted via IMA/GUI or IMA/EDI	interface via which LSR submitted (GUI / EDI / Fax)	Y			HPC's records contain the interface via which LSR submitted (GUI / EDI / Fax)
			Elig: Electronic submission	FAX or courier submitted orders ineligible	interface via which LSR submitted (GUI / EDI / Fax)	Y			HPC's PON reflects the interface via which the LSR was submitted. DDTS also has an interface indicator.
PO-2B-1 (IMA/GUI) PO-2B-2 (IMA/EDI)	Measures the percentage of all flow-through-eligible LSRs that flow from the specified electronic gateway interface to the SOP without any human intervention.	incorporate all elements listed above for CRM and for PO-2A	Elig: Whether LSR was flow-through eligible	"...This combined table is merged with the IMAMON_U file by LSR. All matches are considered Flow through eligible. This combined table is then checked against the FTS records (FTS_DAILY) with an indicator set to 'Yes' and the IMA exception file (IMAMON_E). If a record matches, the LSR is not flow through eligible, with two exceptions. The first are Unbundled Loop (UBL) LSRs that have a REQTYPE of 'AB' and a TYPE of 'D'. The second are	Status update incorporating flowthru indicator as described above in CRM exclusion 8			Y	No, there is not a specific field, which indicates whether an item was flow through. <i>Flow-through indicators were not present for the entire test. We did get all of them from EDI after 6.0 implemented. A spot check told us that the indicators in the adhoc were accurate with the ones we were able to capture. Flow-through versus non-flowthru was calculated from the adhoc.</i> Yes, flow through eligibility can be determined from the LSR FCIF/EDI/GUI data.

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
				Resale LSRs with a REQTYPE of 'EB' or 'MB' and a TYPE of 'B'. If the only FTS indicator set to 'Yes' is PENDORD or the only IMA Exception indicator set to 'Yes' is PENDSOP, then these LSRs are not taken from the flow through eligible status."					
			Ineligible for PO-2B, PO-5A: <ul style="list-style-type: none"> Government Accounts (TOS starts with a '3') Unbundled Loop with an Activity Type of 'C' or 'M' Unbundled Loop with an NC not equal to 'LX --' and an Activity Type of 'N', 'V', 'Z' or 'T' 	First UBL condition makes certain activity types ineligible. The second unbundled loop condition declares any unbundled loop which is not 2W or 4W analog as non-flowthrough eligible RPON = Related PON: LSRs involving more than one PON	see required data elements /exclusions column for this row			Y	No, there is not a specific field, which indicates whether an item was flow through. <i>Flow-through indicators were not present for the entire test. We did get all of them from EDI after 6.0 implemented. A spot check told us that the indicators in the adhoc were accurate with the ones we were able to capture. Flow-through versus non-flowthru was calculated from the adhoc.</i> Yes, flow through eligibility can be determined from the LSR FCIF/EDI/GUI data.

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
			or 'T' • RPON populated • Total lines greater than 20 • Status Sequence containing the status of 'Supplemented' or 'In Review' • LSRs with a REQTYPE of 'JB' or 'HB'	are not flowthrough eligible Didn't find any JB's. HB's appear to be listing LSRs					
PO-3A-1 (IMA/GUI) PO-3B-1 (IMA/EDI)	Rejection Interval for LSRs received via the specified interface and rejected manually – state wide level	incorporate all elements listed above for CRM	Disagg: Whether LSR was rejected manually or automatically		Manual /Auto reject indicator / EDI Manual /Auto reject indicator / GUI	Y	Y		The auto-reject cannot be matched to the Qwest adhoc. Therefore we cannot calculate like the PID for an expected similarity. Yes, HPC records for EDI contain an indicator of BPL vs. ISC rejection. Yes, HPC did receive reject emails for GUI. These would be manual rejects. HPC did not receive any BPL reject notification for GUI.
			Disaggregation	Whether REJ was transmitted via IMA/GUI or IMA/EDI	interface via which LSR rejected (GUI / EDI / Fax)	Y			HPC's records contain the interface via which LSR submitted (GUI / EDI / Fax)
			Contribution: Rejection Notification Time	Rejection transmission time minus LSR receipt time	LSR receipt time, Rejection transmission time		Y		No, EDI/GUI the LSR receipt date is not present on any transactions <i>CGE&Y obtained this data from the adhoc, however this data field was compared with the pseudo-CLEC LSR submit time in the Functionality Test Results Comparison Report (FTRC).</i> Yes, EDI/GUI the stop (from Qwest) time of all REJ is provided

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
			Elig: First terminating state is 'Reject'		All Sus, FOCs, Rejects, Cancellations: clearly identifiable as such and complete		Y		Yes, the SU (EDI only), FOC, NF, FATAL are clearly labeled as such. No, cancellations are clearly noted in the LSR but may not be noted in response documents from Qwest. The LSR contains the Cancel Request indicator but is not returned in the response transactions. CGE&Y did obtain this information from the on site personnel.
			Elig: Products: Resale, UBL, LNP, CTX, Complex	Included Product Types are Resale (#1), Unbundled Loop (#4), LNP (#8), Centrex (#10), Complex (#11). Also included are any LSRs that have a REQTYPE of 'HB'.	Product in Script and USOC submitted by P-CLEC incorporated into every LSR, FOC, REJ, and Status Update over 12/21/00 thru 07/06/01 timeframe		Y		Yes, in EDI/GUI the product/USOC are present in the LSR No, in EDI/GUI the product/USOC are not returned by Qwest in FOC, SU (EDI only) or REJ. <i>The product codes from the adhoc were used for the input data, however, CGE&Y validated through the functionality test that what was on the test script was correct on the LSR, which matched the CSR and what was actually billed. Basically validating the Qwest adhoc product code.</i>
PO-3A-2 (IMA/GUI) PO-3B-2 (IMA/EDI)	Rejection Interval for LSRs received via the specified interface and auto-rejected - region wide level	incorporate all elements listed above for CRM	Disagg: Whether LSR was rejected manually or automatically		Manual /Auto reject indicator / EDI Manual /Auto reject indicator / GUI	Y	Y		Yes, HPC records for EDI contain an indicator of BPL vs. ISC rejection. Yes, HPC did receive reject emails for GUI. These would be manual rejects. HPC did not receive any BPL reject notification for GUI. CGE&Y used those reports in the reconciliation process.
			Disaggregation	Whether FOC was transmitted via IMA/GUI or IMA/EDI	interface via which LSR rejected (GUI / EDI / Fax)	Y			Yes, HPC records contain the interface via which LSR rejected (GUI / EDI / Fax)
			Contribution: Rejection Notification Time	Rejection transmission time minus LSR receipt time	LSR receipt time, Rejection transmission time		Y		No, EDI/GUI the LSR receipt date is not present on any transactions <i>CGE&Y obtained this data from the adhoc, however this data field was compared with the pseudo-CLEC LSR submit time in the Functionality Test Results Comparison Report (FTRC).</i> Yes, EDI/GUI the stop (from Qwest) time of all REJ is provided

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
			Elig: First terminating state is 'Reject'		All Sus, FOCs, Rejects, Cancellations: clearly identifiable as such and complete		Y		Yes, the SU (EDI only), FOC, NF, FATAL are clearly labeled as such. No, cancellations are clearly noted in the LSR but may not be noted in response documents from Qwest. The LSR contains the Cancel Request indicator but is not returned in the response transactions. CGE&Y did obtain this information from the on site personnel.
			Elig: Products: Resale, UBL, LNP, CTX, Complex	Included Product Types are Resale (#1), Unbundled Loop (#4), LNP (#8), Centrex (#10), Complex (#11). Also included are any LSRs that have a REQTYPE of 'HB'.	Product in Script and USOC submitted by P-CLEC incorporated into every LSR, FOC, REJ, and Status Update over 12/21/00 thru 07/06/01 timeframe		Y		Yes, in EDI/GUI the product/U SOC are present in the LSR No, in EDI/GUI the product/USOC are not returned by Qwest in FOC, SU (EDI only) or REJ. <i>The product codes from the adhoc were used for the input data, however, CGE&Y validated through the functionality test that what was on the test script was correct on the LSR, which matched the CSR and what was actually billed. Basically validating the Qwest adhoc product code.</i>
PO-3C	Rejection Interval for LSRs received via facsimile - Statewide level	incorporate all elements listed above for CRM	Contribution: Rejection Notification Time	Rejection transmission time minus LSR receipt time	LSR receipt time, Rejection transmission time		Y		No, EDI/GUI the LSR receipt date is not present on any transactions <i>CGE&Y obtained this data from the adhoc, however this data field was compared with the pseudo-CLEC LSR submit time in the Functionality Test Results Comparison Report (FTRC).</i> Yes, EDI/GUI the stop (from Qwest) time of all REJ is provided
			Elig: First terminating state is 'Reject'		All Sus, FOCs, Rejects, Cancellations: clearly identifiable as such and complete		Y		Yes, the SU (EDI only), FOC, NF, FATAL are clearly labeled as such. No, cancellations are clearly noted in the LSR but may not be noted in response documents from Qwest. The LSR contains the Cancel Request indicator but is not returned in the response transactions. CGE&Y did obtain this information from the on site personnel.

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
			Elig: Products: Resale, UBL, LNP, CTX, Complex	Included Product Types are Resale (#1), Unbundled Loop (#4), LNP (#8), Centrex (#10), Complex (#11). Also included are any LSRs that have a REQTYPE of 'HB'.	Product in Script and USOC submitted by P-CLEC incorporated into every LSR, FOC, REJ, and Status Update over 12/21/00 thru 07/06/01 timeframe		Y		Yes, in EDI/GUI the product/USOC are present in the LSR No, in EDI/GUI the product/USOC are not returned by Qwest in FOC, SU (EDI only) or REJ. <i>The product codes from the adhoc were used for the input data, however, CGE&Y validated through the functionality test that what was on the test script was correct on the LSR, which matched the CSR and what was actually billed. Basically validating the Qwest adhoc product code.</i>
PO-4A-1 (IMA/GUI) PO-4B-1 (IMA/EDI)	Manual Rejection Rate of LSRs received via the specified interface	incorporate all elements listed above for CRM	Disagg: Whether LSR was rejected manually or automatically		Manual /Auto reject indicator /EDI Manual /Auto reject indicator / GUI	Y		Y	Yes, HPC records for EDI contain an indicator of BPL vs. ISC rejection. Yes, HPC did receive reject emails for GUI. These would be manual rejects. HPC did not receive any BPL reject notification for GUI.
			Disaggregation	Whether FOC was transmitted via IMA/GUI or IMA/EDI	interface via which LSR rejected (GUI / EDI / Fax)	Y			HPC Records contain the interface via which LSR rejected (GUI / EDI / Fax)
			Elig: First terminating state is 'Reject'		All Sus, FOCs, Rejects, Cancellations: clearly identifiable as such and complete		Y		Yes, the SU (EDI only), FOC, NF, FATAL are clearly labeled as such. No, cancellations are clearly noted in the LSR but may not be noted in response documents from Qwest. The LSR contains the Cancel Request indicator but is not returned in the response transactions. CGE&Y did obtain this information from the on site personnel.
			Elig: Products: Resale, UBL, LNP, CTX, Complex	Included Product Types are Resale (#1), Unbundled Loop (#4), LNP (#8), Centrex (#10), Complex (#11). Also included are any LSRs that have a REQTYPE of 'HB'.	Product in Script and USOC submitted by P-CLEC incorporated into every LSR, FOC, REJ, and Status Update over 12/21/00 thru 07/06/01 timeframe		Y		Yes, in EDI/GUI the product/USOC are present in the LSR No, in EDI/GUI the product/USOC are not returned by Qwest in FOC, SU (EDI only) or REJ. <i>The product codes from the adhoc were used for the input data, however, CGE&Y validated through the functionality test that what was on the test script was correct on the LSR, which matched the CSR and what was actually billed. Basically validating the Qwest adhoc product code.</i>

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
PO-4A-2 (IMA/GUI) PO-4B-2 (IMA/EDI)	Automatic Rejection Rate of LSRs received via the specified interface	incorporate all elements listed above for CRM	Disagg: Whether LSR was rejected manually or automatically		Manual /Auto reject indicator /EDI Manual /Auto reject indicator / GUI	Y	Y		Yes, HPC records for EDI contain an indicator of BPL vs. ISC rejection. Yes, HPC did receive reject emails for GUI. These would be manual rejects. HPC did not receive any BPL reject notification for GUI.
			Disaggregation	Whether FOC was transmitted via IMA/GUI or IMA/EDI	interface via which LSR rejected (GUI / EDI / Fax)	Y			HPC Records contain the interface via which LSR rejected (GUI / EDI / Fax)
			Elig: First terminating state is 'Reject'		All Sus, FOCs, Rejects, Cancellations: clearly identifiable as such and complete		Y		Yes, the SU (EDI only), FOC, NF, FATAL are clearly labeled as such. No, cancellations are clearly noted in the LSR but may not be noted in response documents from Qwest. The LSR contains the Cancel Request indicator but is not returned in the response transactions. CGE&Y did obtain this information from the on site personnel.
			Elig: Products: Resale, UBL, LNP, CTX, Complex	Included Product Types are Resale (#1), Unbundled Loop (#4), LNP (#8), Centrex (#10), Complex (#11). Also included are any LSRs that have a REQTYPE of 'HB'.	Product in Script and USOC submitted by P-CLEC incorporated into every LSR, FOC, REJ, and Status Update over 12/21/00 thru 07/06/01 timeframe		Y		Yes, in EDI/GUI the product/USOC are present in the LSR No, in EDI/GUI the product/USOC are not returned by Qwest in FOC, SU (EDI only) or REJ. <i>The product codes from the adhoc were used for the input data, however, CGE&Y validated through the functionality test that what was on the test script was correct on the LSR, which matched the CSR and what was actually billed. Basically validating the Qwest adhoc product code.</i>
PO-4C	Rejection rate of LSRs received via facsimile.	incorporate all elements listed above for CRM	Elig: First terminating state is 'Reject'		All Sus, FOCs, Rejects, Cancellations: clearly identifiable as such and complete		Y		Yes, the SU (EDI only), FOC, NF, FATAL are clearly labeled as such. No, cancellations are clearly noted in the LSR but may not be noted in response documents from Qwest. <i>The LSR contains the Cancel Request indicator but is not returned in the response transactions. CGE&Y did obtain this information from the on site personnel.</i>

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
			Elig: Products: Resale, UBL, LNP, CTX, Complex	Included Product Types are Resale (#1), Unbundled Loop (#4), LNP (#8), Centrex (#10), Complex (#11). Also included are any LSRs that have a REQTYPE of 'HB'.	Product in Script and USOC submitted by P-CLEC incorporated into every LSR, FOC, REJ, and Status Update over 12/21/00 thru 07/06/01 timeframe		Y		Yes, in EDI/GUI the product/USOC are present in the LSR No, in EDI/GUI the product/USOC are not returned by Qwest in FOC, SU (EDI only) or REJ. <i>The product codes from the adhoc were used for the input data, however, CGE&Y validated through the functionality test that what was on the test script was correct on the LSR, which matched the CSR and what was actually billed. Basically validating the Qwest adhoc product code.</i>
PO-5A-1 (IMA/GUI) PO-5A-2 (IMA/EDI)	Timeliness of FOCs provided for fully electronic LSRs received via the specified interface	incorporate all elements listed above for CRM, PO-2A, and PO-2B	Elig: whether the LSR encountered manual processing between receipt and first terminating state (FOC issuance, Rejection, or Cancellation).	Qwest keeps the userid of Qwest personnel involved in handling any transaction on the LSR. If no userids present on any record from Receipt thru first terminating state, then record flowed through automatically.	Status update incorporating flowthru indicator as described above in CRM exclusion 8			Y	No, there is not a specific field, which indicates whether an item was flow through. <i>Flow-through indicators were not present for the entire test. We did get all of them from EDI after 6.0 implemented. A spot check told us that the indicators in the adhoc were accurate with the ones we were able to capture. Flow-through versus non-flowthru was calculated from the adhoc.</i> Yes, flow through eligibility can be determined from the LSR FCIF/EDI/GUI data.
			Contribution: Date&Time FOC transmitted		FOC transmission by Qwest datetime	Y			HPC Records contain the FOC transmission by Qwest date/time
			Contribution: Date & Time LSR Received		LSR receipt (by Qwest) datetime		Y		No, the receipt times cannot be provided. They are not returned by Qwest. <i>CGE&Y obtained this data from the adhoc, however this data field was compared with the pseudo-CLEC LSR submit time in the Functionality Test Results Comparison Report (FTRC).</i>
			Contribution: Gateway availability scheduled hours; business hours; holidays				Y		This is Qwest provided information. <i>This data element was obtained from the Qwest adhoc.</i>

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
			Elig: Cancellation & Rejection notices	If these occurred before first FOC, LSR inelig for PO-5	Clearly distinguishable Cancellation and Rejection notifications and Status Updates indicating Cancellation or Rejection with datetimes these were transmitted by Qwest		Y		Yes, rejections (FATAL, NF, JEOP) are clearly noted as rejects. No, cancellations are clearly notes on the LSR, however Qwest response documents are not coded to indicate cancellation. The LSR contains the Cancel Request indicator but is not returned in the response transactions. CGE&Y did obtain this information from the on site personnel.
			Elig: First FOC notice		FOC transmission by Qwest datetime	Y			HPC Records contain the FOC transmission by Qwest date/time
			Elig / Disagg: Product	Resale: Centrex 21, Centrex Plus / Centron/ Centrex Prime, Analog PBX DID, PBX (TFB, TFU, TCG usocs), DS0, DS1,DS3, ISDN PRI T1, ISDN PRI Trunk, ISDN BRI, POTS, Frame Relay, Megabit, Designed Trunks. UNE-P POTS Unbundled Loops: with and without Number Portability; Shared; Distributed; Feeder; Designed Trunks Local Number Portability	Product in Script and USOC submitted by P-CLEC incorporated into every LSR, FOC, REJ, and Status Update over 12/21/00 thru 07/06/01 timeframe		Y		Yes, in EDI/GUI the product/USOC are present in the LSR No, in EDI/GUI the product/USOC are not returned by Qwest in FOC, SU (EDI only) or REJ. <i>The product codes from the adhoc were used for the input data, however, CGE&Y validated through the functionality test that what was on the test script was correct on the LSR, which matched the CSR and what was actually billed. Basically validating the Qwest adhoc product code.</i>
			Elig: Requisition Type not 'JB' or 'HB'	I didn't find any JB's. HB's appear to be LISTING requisitions.	Directory Change Only? [Y/N] populated on all Script, LSR,SU,FOC,		Y		Yes, the product is in the LSR. No, the product is not returned by Qwest in any response document.

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
			'HB'	requisitions.	REJ, Cancel notifications				<i>The product codes from the adhoc were used for the input data, however, CGE&Y validated through the functionality test that what was on the test script was correct on the LSR, which matched the CSR and what was actually billed. Basically validating the Qwest adhoc product code.</i>
			Disaggregation	Whether FOC was transmitted via IMA/GUI or IMA/EDI	interface via which LSR submitted (GUI / EDI / Fax)	Y			HPC Records contain the FOC transmission by Qwest date/time
			Elig: Electronic submission	FAX or courier submitted orders ineligible	interface via which LSR submitted (GUI / EDI / Fax)	Y			HPC's records contain the interface via which LSR submitted (GUI / EDI / Fax)
			Elig: Whether LSR was flow-through eligible	"...This combined table is merged with the IMAMON_U file by LSR. All matches are considered Flow through eligible. This combined table is then checked against the FTS records (FTS_DAILY) with an indicator set to 'Yes' and the IMA exception file (IMAMON_E). If a record matches, the LSR is not flow through eligible, with two exceptions. The first are Unbundled Loop (UBL) LSRs that have a REQTYPE of 'AB' and a TYPE of 'D'. The second are Resale LSRs with a REQTYPE of 'EB' or 'MB' and a TYPE of 'B'. If the only FTS	Status update incorporating flowthru indicator as described above in CRM exclusion 8			Y	No, there is not a specific field that indicates whether an item was flow through. <i>Flow-through indicators were not present for the entire test. We did get all of them from EDI after 6.0 implemented. A spot check told us that the indicators in the adhoc were accurate with the ones we were able to capture. Flow-through versus non-flowthru was calculated from the adhoc.</i> Yes, flow through eligibility can be determined from the LSR FCIF/EDI/GUI data.

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
				indicator set to 'Yes' is PENDORD or the only IMA Exception indicator set to 'Yes' is PENDSOP, then these LSRs are not taken from the flow through eligible status."					
			<p>Ineligible for PO-2B, PO-5A:</p> <ul style="list-style-type: none"> Government Accounts (TOS starts with a '3') Unbundled Loop with an Activity Type of 'C' or 'M' Unbundled Loop with an NC not equal to 'LX --' and an Activity Type 	<p>First UBL condition makes certain activity types ineligible.</p> <p>The second unbundled loop condition declares any unbundled loop which is not 2W or 4W analog as non-flowthrough eligible</p> <p>RPON = Related PON: LSRs involving more than one PON</p>	see required data elements /exclusions column for this row			Y	<p>No, there is not a specific field that indicates whether an item was flow through.</p> <p><i>Flow-through indicators were not present for the entire test. We did get all of them from EDI after 6.0 implemented. A spot check told us that the indicators in the adhoc were accurate with the ones we were able to capture. Flow-through versus non-flowthru was calculated from the adhoc.</i></p> <p>Yes, flow through eligibility can be determined from the LSR FCIF/EDI/GUI data.</p>

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
			<ul style="list-style-type: none"> of 'N', 'V', 'Z' or 'T' • RPON populated • Total lines greater than 20 • Status Sequence containing the status of 'Supplemented' or 'In Review' • LSRs with a REQTYPE of 'JB' or 'HB' 	<p>are not flowthrough eligible</p> <p>Didn't find any JB's. HB's appear to be listing LSRs</p>					
PO-5B-1 (IMA/GUI) PO-5B-2 (IMA/EDI)			Contribution: Date&Time FOC transmitted		FOC transmission by Qwest datetime	Y			HPC's records contain the FOC transmission by Qwest date/time
			Contribution: Date & Time LSR Received		LSR receipt (by Qwest) datetime		Y		<p>No, the receipt times cannot be provided. They are not returned by Qwest.</p> <p><i>CGE&Y obtained this data from the adhoc, however this data field was compared with the pseudo-CLEC LSR submit time in the Functionality Test Results Comparison Report (FTRC).</i></p>
			Contribution: Gateway availability scheduled hours; business hours; holidays				Y		<p>This is Qwest provided information.</p> <p><i>This data element was obtained from the Qwest adhoc.</i></p>

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
			Elig: Cancellation & Rejection notices	If these occurred before first FOC, LSR inelig for PO-5	Clearly distinguishable Cancellation and Rejection notifications and Status Updates indicating Cancellation or Rejection with datetimes these were transmitted by Qwest		Y		Yes, rejections (FATAL, NF, JEOP) are clearly noted as rejects. No, cancellations are clearly notes on the LSR, however Qwest response documents are not coded to indicate cancellation. The LSR contains the Cancel Request indicator but is not returned in the response transactions. CGE&Y did obtain this information from the on site personnel.
			Elig: First FOC notice		FOC transmission by Qwest datetime	Y			HPC's records contain the FOC transmission by Qwest date/time
			Elig / Disagg: Product	Resale: Centrex 21, Centrex Plus / Centron/ Centrex Prime, Analog PBX DID, PBX (TFB, TFU, TCG usocs), DS0, DS1,DS3, ISDN PRI T1, ISDN PRI Trunk, ISDN BRI, POTS, Frame Relay, Megabit, Designed Trunks. UNE-P POTS Unbundled Loops: with and without Number Portability; Shared; Distributed; Feeder; Designed Trunks Local Number	Product in Script and USOC submitted by P-CLEC incorporated into every LSR, FOC, REJ, and Status Update over 12/21/00 thru 07/06/01 timeframe		Y		Yes, in EDI/GUI the product/USOC are present in the LSR No, in EDI/GUI the product/USOC are not returned by Qwest in FOC, SU (EDI only) or REJ. <i>The product codes from the adhoc were used for the input data, however, CGE&Y validated through the functionality test that what was on the test script was correct on the LSR, which matched the CSR and what was actually billed. Basically validating the Qwest adhoc product code.</i>

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
				Portability					
			Elig: Requisition Type not 'JB' or 'HB'	I didn't find any JB's. HB's appear to be LISTING requisitions.	Directory Change Only? [Y/N] populated on all Script, LSR,SU,FOC, REJ, Cancel notifications		Y		Yes, the product is in the LSR. <i>No, the product is not returned by Qwest in any response document. The product codes from the adhoc were used for the input data, however, CGE&Y validated through the functionality test that what was on the test script was correct on the LSR, which matched the CSR and what was actually billed. Basically validating the Qwest adhoc product code.</i>
			Disaggregation	Whether FOC was transmitted via IMA/GUI or IMA/EDI	interface via which LSR submitted (GUI / EDI / Fax)	Y			HPC's records contain the interface via which LSR submitted (GUI / EDI / Fax)
			Elig: Electronic submission	FAX or courier submitted orders ineligible	interface via which LSR submitted (GUI / EDI / Fax)	Y			HPC's PON reflects the interface via which the LSR was submitted. DDTS also has an interface indicator.

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
			Elig: Whether LSR was flow-through eligible	"...This combined table is merged with the IMAMON_U file by LSR. All matches are considered Flow through eligible. This combined table is then checked against the FT S records (FTS_DAILY) with an indicator set to 'Yes' and the IMA exception file (IMAMON_E). If a record matches, the LSR is not flow through eligible, with two exceptions. The first are Unbundled Loop (UBL) LSRs that have a REQTYPE of 'AB' and a TYPE of 'D'. The second are Resale LSRs with a REQTYPE of 'EB' or 'MB' and a TYPE of 'B'. If the only FTS indicator set to 'Yes' is PENDORD or the only IMA Exception indicator set to 'Yes' is PENDSOP, then these LSRs are not taken from the flow through eligible stat us."	Status update incorporating flowthru indicator as described above in CRM exclusion 8			Y	No, there is not a specific field that indicates whether an item was flow through. <i>Flow-through indicators were not present for the entire test. We did get all of them from EDI after 6.0 implemented. A spot check told us that the indicators in the adhoc were accurate with the ones we were able to capture. Flow-through versus non-flowthru was calculated from the adhoc.</i> Yes, flow through eligibility can be determined from the LSR FCIF/EDI/GUI data.

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
			<p>Ineligible for PO-2B, PO-5A:</p> <ul style="list-style-type: none"> Government Accounts (TOS starts with a '3') Unbundled Loop with an Activity Type of 'C' or 'M' Unbundled Loop with an NC not equal to 'LX --' and an Activity Type of 'N', 'V', 'Z' or 'T' RPON populated Total lines greater than 20 Status Sequence containing the status of 'Supplemented' or 'In Review' LSRs with a REQTYPE of 'JB' or 'HB' 	<p>First UBL condition makes certain activity types ineligible.</p> <p>The second unbundled loop condition declares any unbundled loop which is not 2W or 4W analog as non-flowthrough eligible</p> <p>RPON = Related PON: LSRs involving more than one PON are not flowthrough eligible</p> <p>Didn't find any JB's. HB's appear to be listing LSRs</p>	see required data elements /exclusions column for this row			Y	<p>No, there is not a specific field that indicates whether an item was flow through.</p> <p><i>Flow-through indicators were not present for the entire test. We did get all of them from EDI after 6.0 implemented. A spot check told us that the indicators in the adhoc were accurate with the ones we were able to capture. Flow-through versus non-flowthru was calculated from the adhoc.</i></p> <p>Yes, flow through eligibility can be determined from the LSR FCIF/EDI/GUI data.</p>
			Contribution: Maximum Timely FOC interval for this LSR	See Maximum Interval Chart on pg. 5-13, 5-14 of RRS Technical Documentation.	see required data elements /exclusions column for this row			Y	<p>No, there is not a specific field that indicates whether an item was flow through.</p> <p><i>Flow-through indicators were not present for the entire test. We did get all of them from EDI after 6.0 implemented. A spot check told us that the indicators in the adhoc were</i></p>

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
									<i>accurate with the ones we were able to capture. Flow-through versus non-flowthru was calculated from the adhoc.</i> Yes, flow through eligibility can be determined from the LSR FCIF/EDI/GUI data.
PO-5C	FOCs provided for manual LSRs received via Facsimile.	incorporate all info for CRM, PO-5B	Whether LSR was received via FAX	No LSRs were submitted during the test via facsimile.	interface via which LSR submitted (GUI / EDI / Fax)	N/A	N/A	N/A	N/A
PO-5D	FOCs provided for ASRs requesting LIS Trunks.	incorporate all info for CRM, PO-5B	N/ A	No ASRs submitted as part of test	N/A	N/A	N/A	N/A	N/A
PO-5E-1 (IMA/GUI) PO-5E-2 (IMA/EDI)	FOCs provided for LSRs that are classified as flow-through-eligible,**but failed to flow through, for LSRs received via the specified interface	incorporate all info for CRM	Elig: whether the LSR encountered manual processing between receipt and first terminating state (FOC issuance, Rejection, or Cancellation).	Qwest keeps the userid of Qwest personnel involved in handling any transaction on the LSR. If no userids present on any record from Receipt thru first terminating state, then record flowed through automatically.	Status update incorporating flowthru indicator as described above in CRM exclusion 8			Y	No, there is not a specific field that indicates whether an item was flow through. <i>Flow-through indicators were not present for the entire test. We did get all of them from EDI after 6.0 implemented. A spot check told us that the indicators in the adhoc were accurate with the ones we were able to capture. Flow-through versus non-flowthru was calculated from the adhoc.</i> Yes, flow through eligibility can be determined from the LSR FCIF/EDI/GUI data.
			Contribution: Date&Time FOC transmitted		FOC transmission by Qwest datetime	Y			HPC's records contain the FOC transmission by Qwest date/time
			Contribution: Date & Time LSR Received		LSR receipt (by Qwest) datetime		Y		No, the receipt times cannot be provided. They are not returned by Qwest. <i>CGE&Y obtained this data from the adhoc, however this data field was compared with the pseudo-CLEC LSR submit time in the Functionality Test Results Comparison Report (FTRC).</i>
			Contribution: Gateway				Y		This is Qwest provided information.

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
			availability scheduled hours; business hours; holidays						<i>This data element was obtained from the Qwest adhoc.</i>
			Elig: Cancellation & Rejection notices	If these occurred before first FOC, LSR inelig for PO-5	Clearly distinguishable Cancellation and Rejection notifications and Status Updates indicating Cancellation or Rejection with datetimes these were transmitted by Qwest		Y		Yes, rejections (FATAL, NF, JEOP) are clearly noted as rejects. No, cancellations are clearly notes on the LSR, however Qwest response documents are not coded to indicate cancellation. The LSR contains the Cancel Request indicator but is not returned in the response transactions. CGE&Y did obtain this information from the on site personnel.
			Elig: First FOC notice		FOC transmission by Qwest datetime	Y			HPC's records contain the FOC transmission by Qwest date/time
			Elig / Disagg: Product	Resale: Centrex 21, Centrex Plus / Centron/ Centrex Prime, Analog PBX DID, PBX (TFB, TFU, TCG usocs), DS0, DS1, DS3, ISDN PRI T1, ISDN PRI Trunk, ISDN BRI, POTS, Frame Relay, Megabit, Designed Trunks. UNE-P POTS Unbundled Loops: with and without Number Portability; Shared; Distributed; Feeder; Designed	Product in Script and USOC submitted by P-CLEC incorporated into every LSR, FOC, REJ, and Status Update over 12/21/00 thru 07/06/01 timeframe		Y		Yes, in EDI/GUI the product/USOC are present in the LSR No, in EDI/GUI the product/USOC are not returned by Qwest in FOC, SU (EDI only) or REJ. <i>The product codes from the adhoc were used for the input data, however, CGE&Y validated through the functionality test that what was on the test script was correct on the LSR, which matched the CSR and what was actually billed. Basically validating the Qwest adhoc product code.</i>

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
				Trunks Local Number Portability					
			Elig: Requisition Type not 'JB' or 'HB'	I didn't find any JB's. HB's appear to be LISTING requisitions.	Directory Change Only? [Y/N] populated on all Script, LSR,SU,FOC, REJ, Cancel notifications		Y		Yes, the product is in the LSR. <i>No, the product is not returned by Qwest in any response document. The product codes from the adhoc were used for the input data, however, CGE&Y validated through the functionality test that what was on the test script was correct on the LSR, which matched the CSR and what was actually billed. Basically validating the Qwest adhoc product code.</i>
			Disaggregation	Whether FOC was transmitted via IMA/GUI or IMA/EDI	interface via which LSR submitted (GUI / EDI / Fax)	Y			HPC's records contain the interface via which LSR submitted (GUI / EDI / Fax)
			Elig: Electronic submission	FAX or courier submitted orders ineligible	interface via which LSR submitted (GUI / EDI / Fax)	Y			HPC's PON reflects the interface via which the LSR was submitted. DDTS also has an interface indicator.

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
			Elig: Whether LSR was flow-through eligible	"...This combined table is merged with the IMAMON_U file by LSR. All matches are considered Flow through eligible. This combined table is then checked against the FTS records (FTS_DAILY) with an indicator set to 'Yes' and the IMA exception file (IMAMON_E). If a record matches, the LSR is not flow through eligible, with two exceptions. The first are Unbundled Loop (UBL) LSRs that have a REQTYPE of 'AB' and a TYPE of 'D'. The second are Resale LSRs with a REQTYPE of 'EB' or 'MB' and a TYPE of 'B'. If the only FTS indicator set to 'Yes' is PENDORD or the only IMA Exception indicator set to 'Yes' is PENDSOP, then these LSRs are not taken from the flow through eligible status."	Status update incorporating flowthru indicator as described above in CRM exclusion 8			Y	No, there is not a specific field that indicates whether an item was flow through. <i>Flow-through indicators were not present for the entire test. We did get all of them from EDI after 6.0 implemented. A spot check told us that the indicators in the adhoc were accurate with the ones we were able to capture. Flow-through versus non-flowthru was calculated from the adhoc.</i> Yes, flow through eligibility can be determined from the LSR FCIF/EDI/GUI data.

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
			<p>Ineligible for PO-2B, PO-5A:</p> <ul style="list-style-type: none"> Government Accounts (TOS starts with a '3') Unbundled Loop with an Activity Type of 'C' or 'M' Unbundled Loop with an NC not equal to 'LX --' and an Activity Type of 'N', 'V', 'Z' or 'T' RPON populated Total lines greater than 20 Status Sequence containing the status of 'Supplemented' or 'In Review' LSRs with a REQTYPE of 'JB' or 'HB' 	<p>First UBL condition makes certain activity types ineligible.</p> <p>The second unbundled loop condition declares any unbundled loop which is not 2W or 4W analog as non-flowthrough eligible</p> <p>RPON = Related PON: LSRs involving more than one PON are not flowthrough eligible</p> <p>Didn't find any JB's. HB's appear to be listing LSRs</p>	see required data elements /exclusions column for this row			Y	<p>No, there is not a specific field that indicates whether an item was flow through.</p> <p><i>Flow-through indicators were not present for the entire test. We did get all of them from EDI after 6.0 implemented. A spot check told us that the indicators in the adhoc were accurate with the ones we were able to capture. Flow-through versus non-flowthru was calculated from the adhoc.</i></p> <p>Yes, flow through eligibility can be determined from the LSR FCIF/EDI/GUI data.</p>
			Contribution: Maximum Timely FOC interval for this LSR	See Maximum Interval Chart on pg. 5-13, 5-14 of RRS Technical Documentation.	see required data elements /exclusions column for this row			Y	<p>No, there is not a specific field that indicates whether an item was flow through.</p> <p><i>Flow-through indicators were not present for the entire test. We did get all of them from EDI after 6.0 implemented. A spot check told us that the indicators in the adhoc were</i></p>

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo- CLEC Data Available via the Gateway Notifiers	Pseudo- CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
									<i>accurate with the ones we were able to capture. Flow-through versus non-flowthru was calculated from the adhoc.</i> Yes, flow through eligibility can be determined from the LSR FCIF/EDI/GUI data.
JEOP	Data Source for following PID measurements: PO-8 (Jeopardy Notification Interval), PO-9 (Pct Missed Commitments with Jeopardy Notification provided in Advance)	Incorporate all RSOR data elements and exclusions	Jeopardy notifications provided	RSOR records found in Report Tracking Tool (RTT)	All Jeopardy notifications and jeopardy-related status updates, and jeopardy-related FOCs, indicating PON/VER, LSR, Order Number, notification date-time, and due-date. All SOC's related to these, fully populated with same info and completion date reason for missed commitment and responsible party where relevant.		Y	Y	Yes, HPC can provide all Jeopardy notices and SOC's received from Qwest. HPC cannot verify that all notices contain the information noted. All data elements were validated through the data reconciliation and independent measure calculation. Qwest does not return reason for missed commitment, or responsible party on the SOC. The miss code was extracted from the adhoc data.
			Commitments missed	RSOR records for which COMT_MET=N or F	All SOC's where completion date is later than first FOC due date, with completion date, PON/VER, order number reason for missed commitment and responsible party		Y	Y	Yes, HPC can provide all SOC's and all FOC's that can be used by CGE&Y to measure this item. Qwest does not return reason for missed commitment, or responsible party on the SOC. The miss code was extracted from the adhoc data.

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
PO-8	Calculates the average days in advance an LSR receives a Jeopardy notification before the original due date from the FOC.	Incorporate all info from JEOP, RSOR	Contribution: Original Due date		For each jeopardy notification provided record identified (2 rows above this one), the due date on the first FOC received for that LSR containing the relevant order number.	Y			HPC's records contain the due date on the first FOC received for that LSR containing the relevant order number.
			Contribution: Jeopardy notification date		jeopardy notification date from JEOP, or jeopardy -identifiable SU or FOC	Y			HPC's records contain the jeopardy notification date from JEOP, or jeopardy-identifiable SU or FOC
			Elig: Order completed and registered as such in RSOR		SOC record for the order number identified on the jeopardy notification		Y		HPC can provide SOC for all or specific LSRs if CGE&Y provides the tracking numbers. Note, over 300 were missing subject to IWO 1045. The data reconciliation task identified the missing SOC's and was used for the calculations.
			Elig: Due date missed for other than Customer reasons		reason for missed commitment, responsible party			Y	Qwest does not return reason for missed commitment, or responsible party on the SOC. The miss code was extracted from the adhoc data.
			Elig: Jeopardy provided before due date		due date and jeopardy notification date	Y			HPC's records contain the due date and jeopardy notification date
PO-9	Of LSRs missing the original due date, calculate % which had jeopardy notification provided in advance	Incorporate all info from JEOP, RSOR	Elig & Contribution: Original Due Date		For each jeopardy notification provided record identified, the due date on the first FOC received for that LSR containing the relevant order number.	Y			HPC's records contain the due date on the first FOC received for that LSR containing the relevant order number.

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
			Contribution: Was jeopardy notification provided		Jeopardy notification from JEOP, or jeopardy -identifiable SU or FOC with same order number as missed commitment SOC	Y			HPC's records contain the Jeopardy notification from JEOP, or jeopardy -identifiable SU or FOC with same order number as missed commitment SOC
			Contribution: If yes was it in advance of original due date?		due date and jeopardy notification date	Y			HPC's records contain the due date and jeopardy notification date
			Elig: Order completed and registered as such in RSOR		SOC record for the missed commitment	Y			HPC can provide SOC for all or specific LSRs if CGE&Y provides the tracking numbers. The data reconciliation task identified the missing SOC's and was used for the calculations.
			Elig: Original Due Date missed		SOC completion date later than due date on first FOC referencing the same order number	Y			HPC's records contain the SOC completion dates for same order number as the FOC.
			Elig: Reason other than Customer reasons		reason for missed commitment, responsible party			Y	Qwest does not return reason for missed commitment, or responsible party on the SOC. The miss code was extracted from the adhoc data.

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
PO-6			Completion Notifications Transmitted within 24 hours (percent)	PO – 6A – 6B S((Date and Time Completion Notification transmitted to CLEC) - (Date and Time Work Completion posted in WFA)) / (Number of orders completed in reporting period)	Date the order was completed in WFA Time the order was completed in WFA date and time the notification was received by the pseudo CLEC	Y – see note 1 Y		Y	No, HPC does not have WFA completion information. Note 1: The status update indicators from WFA were received via the EDI gateway. This was not inclusive of the entire test period. The notifiers for the GUI were not received via the gateway but by the SOC on the L&C report. Yes, HPC has the date an order was completed via the SOC's received from Qwest.
PO-7			Completion Notification Interval (average)		Date and time the order was completed in Billing and the date and time the notification was received by the pseudo CLEC		Y		HPC has the date/time that Qwest provides for the Service Order Completion notification. Billing completion notification was not received for all orders. Status Update Indicators also were not present at the start of the test. The data reconciliation task identified the missing SOC's and was used for the calculations. Through the IWO process, CGE&Y learned that the date the order was updated in billing is the date the notice was transmitted to the L&C report. The calculations were adjusted accordingly.
OP-7	Coordinated Cutover Interval – Unbundled Loop		Start and Stop Times		Start and Stop Times		Y	Y-see note 1	No, the LSR indicates a Hot Cut code but not the date/times. Note 1: The start time was documented as the time Qwest made the call, however the stop time was documented as the time AT&T completed testing, therefore the adhoc was used for the stop time. The actual Qwest frame stop time was extracted from the adhoc data..
OP-13	Coordinated Cuts On Time		Actual Start Times and Frame Due Times		Actual Start Times and Frame Due Times		Y		No, the LSR indicates a Hot Cut code but not the date/times This data was captured by CGE&Y on site personnel.
RSOR	Data Source for following PID measurements: OP-3 (Pct Installation		Elig: Order completed and registered as such in RSOR		SOC record for the order number	Y			HPC's records contain the SOC record for the order number

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
	Commitments Met), OP-4 (Installation Interval in Business Days), OP-6 (Delayed Days), OP-5 (Trouble-Free Installation)								
			Contribution: Original Due Date		The due date on the first FOC received for that LSR containing the relevant order number.	Y			HPC can provide FOC data for FOCs received from Qwest CGE&Y parsed the FOCs to ensure the original date was selected.
			Contribution: Completion Date		Completion Date provided on SOC	Y			Completion Date provided on SOC
			Disagg: State		N/A	N/A			N/A
			Disagg: CLEC_ID		N/A	N/A			N/A
			Disagg: Product Code		Product in Script and USOC submitted by P-CLEC incorporated into every LSR, FOC, REJ, and Status Update and SOC over 12/21/00 thru 07/06/01 timeframe		Y		The product code is contained in LSR but is not returned in the response transactions. <i>The product codes from the adhoc were used for the input data, however, CGE&Y validated through the functionality test that what was on the test script was correct on the LSR, which matched the CSR and what was actually billed. Basically validating the Qwest adhoc product code.</i>
			Disagg: Dispatch		did installation require a tech to be dispatched? [Y/N]		Y-see note 1	y	HPC was not provided this information by Qwest. Note 1. CGE&Y used in addition to the adhoc data, ICR logs

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
					dispatched? [Y/N]				documented by the pseudo CLEC for this element.
			Disagg: Entity Class	Non-Designed services: address is within an MSA or not within any MSA. Designed services: Both ends of circuit are in a Hi-Density area (Interval Zone 1) or at least one is in a Lo-Density area (Interval Zone 2)	If a designed service order, were both ends of the circuit in a High-Density region? If a non-designed service order, was the installation of the line at an address in an MSA?			Y y	HPC was not provided this information by Qwest. Qwest adhoc was used for this data element. HPC was not provided this information by Qwest. Qwest adhoc was used for this data element.
			Exclusion 1: No Inward Activity		inward USOC		Y		N – Qwest does not provide information on whether there is inward order activity. Comparing the test scripts to the LSR and verifying the CSR validated inward order activity.
			Exclusion 2: Internal Office Orders		N/A	N/A	N/A	N/A	N/A
			Exclusion 3: Invalid Due Date	due date (possibly customer changed) prior to application date	original and customer changed due dates; first (and customer changed) FOC dates	Y			HPC does not have data categorized as customer changed due dates. HPC can provide copies of LSRs that contain the DD information if CGE&Y will provide tracking numbers .for the requested scenario. CGE&Y obtained the customer changed due dates from the scripts and/or from the onsite personnel at the HP location.
			Exclusion 4: Invalid Completion Date	modified: now if due date prior or app date seems same as Exclusion 3???	original and customer changed due dates; first (and customer changed) FOC dates		Y		HPC does not have data categorized as invalid completion dates. HPC can provide copies of LSRs that contain the DD and application information if CGE&Y will provide tracking numbers .for the requested scenario. In the CGE&Y data, a comparison was made on the requested due date and the actual due date. The result was used for the calculations.

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
			Exclusion 5: Missing Class of Service		Class of Service USOC		Y		<p>HPC does not have data categorized as invalid class of Service data. HPC can provide copies of LSRs and Rejects that contain the class of service USOC information if CGE&Y will provide tracking numbers. for the requested scenario.</p> <p>HP also compared the LSR to the CSR. This product detected any missing class of service.</p> <p>In the CGE&Y data, a comparison was made on the requested due date and the actual due date. The result was used for the calculations.</p>
			Exclusion 6: Invalid Class of Service		Class of Service USOC		Y		<p>HPC does not have data categorized as invalid class of Service data. HPC can provide copies of LSRs and Rejects that contain the class of service USOC information if CGE&Y will provide tracking numbers .for the requested scenario.</p> <p>HP also compared the LSR to the CSR. This product detected any missing class of service.</p> <p>In the CGE&Y data, a comparison was made on the requested due date and the actual due date. The result was used for the calculations.</p>
			Exclusion 7: Invalid Retail LIS Trunk		N/A	N/A	N/A	N/A	N/A
			Exclusion 15: Entry date to App date < -1 or >31 days		Date LSR received by Qwest; Date First FOC transmitted for LSR		Y	Y- see note 1	<p>HPC has the date/time that Qwest provides for the FOC sent. HPC does not have the date the LSR was received by Qwest</p> <p>The LSR submit time was compared to the LSR receipt time.</p> <p>Note 1. CGE&Y obtained the submit date/time from the pseudo CLEC. The Qwest receipt date/time was compared to the pseudo CLEC data. The application date is still under discussions. CGE&Y knows that it lies between the submit and FOC date/times. See § 4.2 of the FTRC Report for a full discussion of the application date.</p>
			Exclusion 11: Cancelled Completion Date	no longer in effect	N/A	N/A	N/A	N/A	N/A

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			Exclusion 12: Zero Due Date	no longer in effect	N/A	N/A	N/A	N/A	N/A
			Exclusion 13: Invalid Date	no longer in effect	N/A	N/A			N/A
			Exclusion 14: Missing or Invalid Date	no longer in effect	N/A	N/A	N/A	N/A	N/A
			Exclusion 16: Billing USOC for Unbundled Loop product		Line level USOCs like: 1CRUL, 1CRUM, 1CRUB, 1CRUC, 1CRUT, 1CRUU, 1CRUF, 1CRUG, 1CRUY, 1CRUZ, 1CRUN		Y		HPC did not receive this information from Qwest. The product codes from the adhoc were used for the input data, however, CGE&Y validated through the functionality test that what was on the test script was correct on the LSR, which matched the CSR and what was actually billed. Basically validating the Qwest adhoc product code. The portion pulled from the adhoc data basically was to simplify the formatting to fit our program source requirements.
			Exclusion 17: DS1 Facility portion of LIS Trunk		N/A	N/A	N/A	N/A	N/A
			Exclusion 18: Invalid E911 product		N/A	N/A	N/A	N/A	N/A
			Exclusion 19: Invalid Retail UBL or UDIT product	no longer in effect from March 2001	N/A	N/A	N/A	N/A	N/A
			Exclusion 21: Invalid State		N/A	N/A	N/A	N/A	N/A
			Exclusion 22: Invalid USOC for suspension of service for non payment		C orders requesting suspension of service for non-payment	Y			HPC did not classify data by invalid class of service. HPC has all LSRs sent for suspension of service that it can provide to the TA and any rejects for these LSRs or HPC can provide specific LSRs if CGE&Y provides the tracking numbers. The line USOC was validated when the account was setup and again prior to the submission of the suspension LSR.

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
			Exclusion 23: PIC change only order		identification of PIC change only orders	Y			HPC did not classify change orders by PIC change category. HPC can provide change orders for PIC if CGE&Y provides the tracking numbers. CGE&Y validated the actual request from the test script during the order procession portion of the test.
			Exclusion 24: Feature change only order		identification of Feature change only orders	Y			HPC did not classify change orders by feature change category. HPC can provide change orders for feature change if CGE&Y provides the tracking numbers. CGE&Y validated the actual request from the test script during the order procession portion of the test.
			Exclusion 25: Integrated date fields missing		customer changed due dates	Y			HPC did not classify orders as customer changed due dates. HPC can provide order data for orders that CGE&Y can provide tracking numbers. In the CGE&Y data, a comparison was made on the requested due date and the actual due date. The result was used for the calculations.
			Exclusion 26: Invalid Feature Group D records		N/A	N/A	N/A	N/A	N/A
			Exclusion 27: Missing value for company misses		was due date change due to facility reasons or not (Y / N / unknown)			Y	Data was not categorized as due date change due to facility reasons. HPC can provide the data for Jeopardy notices that it received from Qwest. HPC can provide specific LSRs if CGE&Y provides the tracking numbers. The cause code was extracted from the adhoc and compared to the jeopardy notifications via the gateway.
			Exclusion 28: Missing or Negative installation interval		customer changed due dates	Y			HPC did not classify orders as customer changed due dates. HPC can provide order data for orders that CGE&Y can provide tracking numbers. CGE&Y tracked the customer changed due dates via the scripts.
			Exclusion 29: Records not flagged as		SOC	Y			HPC can provide to CGE&Y a list of all SOC's received. This was verified in the reconciliation task.

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			completed						
			Exclusion 30: Negative delayed days interval		customer changed due dates	Y			HPC did not classify orders as customer changed due dates. HPC can provide order data for orders that CGE&Y can provide tracking numbers. This was verified in the reconciliation task. In the CGE&Y data, a comparison was made on the requested due date and the actual due date. The result was used for the calculations.
			Exclusion 8: Test CLEC		N/A	N/A	N/A	N/A	N/A
			Elig: Reason for Missed commitment	subsequently matched against missed code reference table to determine if Qwest is responsible for the missed commitment.	reason for missed commitment, responsible party			Y	Qwest does not return reason for missed commitment, or responsible party on the SOC. <i>The missed code was extracted from the adhoc data and compared to the jeopardy notification..</i>
			(Exclusions 9, 10, and 20 are no longer active)		N/A	N/A	N/A	N/A	N/A
			Disagg: Design or Non-Design?	now based on majority for product	order designed or non -designed indicator		Y		HPC data is not classified as designed or non-designed. HPC can provide the TA with a list of LSRs submitted to Qwest, and the LSR confirmations received. CGE&Y knew from the script that the order was designed or non -designed.

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
OP-3	Pct Installation Commitments Met	incorporate all elements listed above for RSOR	Contribution: Due Date & Completed Date		Completion Date provided on SOC Due date on First FOC, (and on any subsequent FOCs clearly identified as customer initiated due date changes) Order number present on both to match with	Y Y Y			Yes, the completion date is provided on the SOC. No, the DDD change may not be clearly noted. The FOC notes what the DDD is, a change may be noted in free-form text by the Qwest Service Center. CGE&Y parsed the emailed FOCs for GUI to validate due date changes and used the EDI data for the same compare. This is presently stated in the reconciliation report. The output data was then used for the calculations after the match was detected between the adhoc and pseudo CLEC inventory. Yes, the order number (PON or PON/VER) is present on all LSR documents and responses.
			Disagg: Dispatch, Product, Entity Class		Product in Script and USOC submitted by P-CLEC incorporated into every LSR, FOC, REJ, and Status Update and SOC over 12/21/00 thru 07/06/01 timeframe did installation require a tech to be dispatched? [Y/N] If a designed service order, were both ends of the circuit in a High-Density region? If a non-designed service order, was the installation of the line		Y	Y Y Y	The product type is not returned by Qwest. <i>The product codes from the adhoc were used for the input data, however, CGE&Y validated through the functionality test that what was on the test script was correct on the LSR, which matched the CSR and what was actually billed. Basically validating the Qwest adhoc product code.</i> A tech could be dispatched without the initial indication in the order. If dispatch indicated in the initial order, then Yes. CGE&Y used the adhoc for this data element. HP did not obtain data on whether the circuit was in a high-density region. This element was obtained solely from Qwest adhoc. HP did not obtain data on whether the address was within the MSA.

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
					at an address in an MSA?				This element was obtained solely from Qwest adhoc.
			Elig: Reason for Missed Commitment		reason for missed commitment, responsible party			Y	Qwest does not return reason for missed commitment, or responsible party on the SOC. <i>The missed code was extracted from the adhoc data as well as the jeopardy notice if generated. It was observed that in a missed condition such as no access, Qwest would re-dispatch the order depending on the time of day and available manpower.</i>
OP-4	Installation Interval	incorporates all elements listed above for RSOR	Contribution: Application Date & Completed Date		Completion Date provided on SOC <i>Application Date</i> Order number present on both to match with	Y Y	Y	Y see note 1	Yes, the completion date is provided on the SOC. Note 1: <i>The P-CLEC knows when it submitted the last LSR prior to receiving a FOC but does not get information back from Qwest on what is considered to be the order application date. The Adhoc is the data source for this element, however, CGE&Y used the last LSR submit date in making independent calculations for the P-CLEC and also the FOC date to compare both sets of results to the Qwest adhoc calculation. See § 4.2 of the FTRC Report for a full discussion of the application date.</i> Yes, the order number (PON or PON/VER) is present on all LSR documents and responses.
			Contribution: business days; holidays		determination of intervals in business days		Y		Intervals are provided in Qwest documentation, not the data. Business days was available to CGE&Y from the PMA and posted on Qwest's web page.
			Disagg: Dispatch, Product, Entity Class		Product in Script and USOC submitted by P-CLEC incorporated into every LSR, FOC, REL and Status		Y		The product type is not returned by Qwest. <i>The product codes from the adhoc were used for the input data, however, CGE&Y validated through the functionality test that what was on the test script was correct on the LSR,</i>

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
OP-6	Delayed Days	incorporate all elements listed above for RSOR	Contribution: Due Date & Completed Date		Completion Date provided on SOC Due date on First FOC, (and on any subsequent FOCs clearly identified as customer initiated due date changes) Order number present on both to match with	Y Y	 Y		Yes, the completion date is provided on the SOC. No, the DDD change may not be clearly noted. The FOC notes what the DDD is, a change may be noted in free-form text by the Qwest Service Center. CGE&Y parsed the emailed FOCs for GUI to validate due date changes and used the EDI data for the same compare. This is presently stated in the reconciliation report. The output data was then used for the calculations after the match was detected between the adhoc and pseudo CLEC inventory. Yes, the order number (PON or PON/VER) is present on all LSR documents and responses.
			Contribution: business days; holidays		determination of intervals in business days		Y		No, the intervals are provided in Qwest documentation, not the data. Business Day interval calculations were available to CGE&Y through the PMA process and available in the Qwest Web site

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			Disagg: Dispatch, Product, Entity Class		Product in Script and USOC submitted by P-CLEC incorporated into every LSR, FOC, REJ, and Status Update and SOC over 12/21/00 thru 07/06/01 timeframe did installation require a tech to be dispatched? [Y/N] If a designed service order, were both ends of the circuit in a High-Density region? If a non-designed service order, was the installation of the line at an address in an MSA?		Y	Y	The product type is not returned by Qwest. <i>The product codes from the adhoc were used for the input data, however, CGE&Y validated through the functionality test that what was on the test script was correct on the LSR, which matched the CSR and what was actually billed. Basically validating the Qwest adhoc product code.</i> A tech could be dispatched without the initial indication in the order. If a dispatch was requested on the order then Yes. CGE&Y used the adhoc for this data element. HPC did not obtain data on whether the circuit was in a high-density region. This element was obtained solely from Qwest adhoc. HPC did not obtain data on whether the address was within the MSA. This element was obtained solely from Qwest adhoc.
			Elig: Reason for Missed Commitment		reason for missed commitment, responsible party			Y	Qwest does not return reason for missed commitment, or responsible party on the SOC. <i>The mis-code was extracted from the adhoc data and compared to the jeopardy notifications..</i>
MTAS	Data Source for following PID M&R measurements on Non-Designed services:		Extract 1: Not a subsequent ticket	Excludes subsequent report of trouble before original trouble is closed.	Was ticket a subsequent ticket?		Y		HPC can only provide this data element for planned troubles submitted by the P-CLEC. <i>When a new ticket is entered, the Display Abbreviated Trouble History (DATH) for the account is displayed. The Abbreviated Trouble History provides the date/time reported, date/time cleared, final disposition, and a trouble report narrative. These fields are provided on the RCE (Repair</i>

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
	MR-3 (OOS troubles cleared within 24 hrs), MR-4 (Any troubles cleared within 48 hrs), MR-6 (Mean Time to Restore) MR-7 (Repair Repeat Report Rate) MR-8 (Trouble Rate) MR-9 (Repair Appointments Met) MR-10 (Customer and Non-Qwest Related								<i>Call Expert) Pre Submittal process screens (HPC paper records) See Flag 1. The DATH also provides the (Qwest) Repair Person (RP) and the Qwest Closing Person (CP)</i>

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
	Trouble Reports) OP-5 (New Service Installation Quality)								
			Extract 2: Customer initiated ticket	Customer=P-CLEC	Trouble tickets not submitted by P-CLEC			Y	HPC does not have access to MTAS data. <i>An MTAS customer initiated indicator (Category of Report) is not available to HPC.</i>
			Extract 3: MUID not Official Services or Public Coin		N / A	N/A	N/A	N/A	N/A
			Extract 4: RSB type code not coin		N / A	N/A	N/A	N/A	N/A
			Extract 5: Message cover indicator not System-Generated		Was ticket system-generated			Y	HPC can only provide this data element for planned troubles submitted by the P-CLEC. <i>An MTAS system generated indicator is not available to HPC.</i>
			Extract 6: Message Report Indicator indicates ticket not opened by technician for internal use		Was ticket opened by tech for internal use?			Y	HPC does not have access to MTAS data. Qwest has this info. <i>An MTAS tech opened indicator) is not available to HPC.</i>
			Disagg: State		N / A	N/A	N/A	N/A	N/A
			Disagg: CLEC_ID		N / A	N/A	N/A	N/A	N/A

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			Exclusion 1: All non-Qwest states		N / A	N/A	N/A	N/A	N/A
			Exclusion 2: Clear Date before Received Date		Trouble clear datetime; trouble received datetime			Y Y	N –HPC does not have access to MTAS data. The MTAS trouble cleared date and time is not available to HPC. N- HPC does not have access to MTAS data. The MTAS trouble received date and time is not available to HPC.
			Exclusion 3: Invalid Product from NC Codes Match		Network Channel Code values		Y		The MTAS Network Channel Code is available via the circuit ID.
			Exclusion 4: Test CLEC		N / A	N/A	N/A	N/A	N/A
			Exclusion 5: LNP Port-In		N / A	N/A	N/A	N/A	N/A
MR-3 (Non-designed)	Pct of Out-of Service Troubles which were cleared within 24 hrs	incorporate all elements listed above for MTAS	Contribution: Rcvd DateTime and Cleared DateTime		Trouble clear datetime; trouble received datetime			Y Y	The MTAS trouble cleared date and time is not available to HPC. The MTAS trouble received date and time is not available to HPC.
			Excl: trouble reports coded to disposition codes for: Customer Action (6); Non-Telco Plant (11); Trouble Beyond the Network Interface(12); and Miscellaneous – Non-Dispatch, non-Qwest (includes CPE,		Clearing Disposition Code for ALL troubles	Y			<i>The clearing disposition code is provided to HPC on the CEMR Trouble Report (TR) Status Close-out notification in the Comments Section. The indicator is a four digit disposition code (i.e., 1240 – this indicates the customer does not have a maintenance contract in USW (Qwest) bills both TIC (Trouble Isolation Charge and Time and Materials). There is also a three digit cause code available (i.e., 600)</i>

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			Customer Instruction, Carrier, Alternate Provider (13);						
			Excl: trouble reports involving a "no access" delay		No Access identification for applicable troubles	Y			<i>The No Access identification is provided to HPC on the CEMR Trouble Report (TR) Status in the TR Status section. The TR Status indicator will be "no access" or "no accessed".</i>
			Excl: Installation-Day trouble reports before installation registered as complete in WFAC		trouble ticket submission date and time WFAC-installation completion registration datetime	Y		Y	trouble submission date and time is available. <i>HPC has the trouble report date and time submitted that is captured on the HPC RCE submission screen printout.</i> WFAC installation completion data was extracted from the SU indicators but the time was extracted from the adhoc.
			Disagg: Dispatch, Product, Entity Class		Product in Script and USOC submitted by P-CLEC incorporated into every M&R status update, script, or M&R ICR Log contact over 12/21/00 thru 07/06/01 timeframe did repair require a tech to be dispatched? [Y/N] If a designed service, were both ends of the circuit in a High-Density region?	Y	Y-P	Y-UP Y	Yes - HPC can only provide this data element for planned troubles submitted by the P-CLEC. <i>No-The MTAS product or USOC is not available to HPC for unplanned troubles.</i> HPC can determine whether a dispatch was required. The dispatch indicator is provided to HPC on the CEMR Trouble Report (TR) Status in the TR Status section. The TR Status section indicator will be "dispatched out" or "dispatched in". <i>A high density region indicator was not provided to HPC</i>

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
					If a non-designed service, was the repaired line at an address in an MSA?			Y	MSA designation was not available to HPC.
			Elig: Out-of-Service Trouble		Was trouble report an out-of-service report?	Y			<i>When a new trouble report is entered, by HPC, the out-of-service condition is determined by the Qwest RCE system. There is no out-of-service indicator provided on CEMR Trouble Report (TR) Status update.</i>
MR-4 (Non-designed)	Pct of Troubles which were cleared within 48 hrs	incorporate all elements listed above for MTAS	Contribution: Rcvd DateTime and Cleared DateTime		Trouble clear datetime; trouble received datetime			Y Y	The MTAS trouble cleared date and time is not available to HPC. The MTAS trouble received date and time is not available to HPC.
			Excl: trouble reports coded to disposition codes for: Customer Action (6); Non-Telco Plant (11); Trouble Beyond the Network Interface(12); and Miscellaneous – Non-Dispatch, non-Qwest (includes CPE, Customer Instruction, Carrier, Alternate Provider (13);		Clearing Disposition Code for ALL troubles	Y			<i>The clearing disposition code is provided to HPC on the CEMR Trouble Report (TR) Status Close-out notification in the Comments Section. The indicator is a four digit disposition code (i.e., 1240 – this indicates the customer does not have a maintenance contract in USW (Qwest) bills both TIC (Trouble Isolation Charge and Time and Materials). There is also a three digit cause code available (i.e., 600)</i>

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
			Excl: trouble reports involving a "no access" delay		No Access identification for applicable troubles	Y			<i>The No Access identification is provided to HPC on the CEMR Trouble Report (TR) Status in the TR Status section. The TR Status indicator will be "no access" or "no accessed".</i>
			Excl: Installation-Day trouble reports before installation registered as complete in WFAC		trouble ticket submission datetime WFAC-installation completion registration datetime	Y		Y	trouble submission date and time is available. <i>HPC has the trouble report date and time submitted that is captured on the HPC RCE submission screen printout.</i> WFAC installation completion time is not provided to the CLEC. Only the date.

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Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
			Excl: trouble reports coded to disposition codes for: Customer Action (6); Non-Telco Plant (11); Trouble Beyond the Network Interface(12); and Miscellaneous – Non-Dispatch, non-Qwest (includes CPE, Customer Instruction, Carrier, Alternate Provider (13);		Clearing Disposition Code for ALL troubles	Y			<i>The clearing disposition code is provided to HPC on the CEMR Trouble Report (TR) Status Close-out notification in the Comments Section. The indicator is a four digit disposition code (i.e., 1240 – this indicates the customer does not have a maintenance contract in USW (Qwest) bills both TIC (Trouble Isolation Charge and Time and Materials). There is also a three digit cause code available (i.e., 600)</i>
			Excl: trouble reports involving a "no access" delay		No Access identification for applicable troubles	Y			<i>The No Access identification is provided to HPC on the CEMR Trouble Report (TR) Status in the TR Status section. The TR Status indicator will be "no access" or "no accessed".</i>
			Excl: Installation-Day trouble reports before installation registered as complete in WFAC		trouble ticket submission datetime WFAC-installation completion registration datetime	Y		Y	<i>The MTAS trouble cleared date and time is not available to HPC. The trouble cleared date and time (TR State) is provided to the CLEC in CEMR. The CEMR trouble closed date and time (TR State) is also available.</i> WFAC installation completion time is not provided to the CLEC. Only the date.



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Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
			Excl: trouble reports coded to disposition codes for: Customer Action (6); Non-Telco Plant (11); Trouble Beyond the Network Interface(12); and Miscellaneous – Non-Dispatch, non-Qwest (includes CPE, Customer Instruction, Carrier, Alternate Provider (13);		Clearing Disposition Code for ALL troubles	Y			<i>The clearing disposition code is provided to HPC on the CEMR Trouble Report (TR) Status Close-out notification in the Comments Section. The indicator is a four digit disposition code (i.e., 1240 – this indicates the customer does not have a maintenance contract in USW (Qwest) bills both TIC (Trouble Isolation Charge and Time and Materials). There is also a three digit cause code available (i.e., 600)</i>
			Excl: Installation-Day trouble reports before installation registered as complete in WFAC		trouble ticket submission datetime WFAC-installation completion registration datetime	Y		Y	Trouble submission date and time is available. HPC has the trouble report date and time submitted that is captured on the HPC RCE submission screen printout. WFAC installation completion time is not provided to the CLEC. Only the date.
			Disagg: Dispatch, Product, Entity Class		Product in Script and USOC submitted by P-CLEC incorporated into every M&R status update, script, or M&R ICR Log contact over 12/21/00 thru 07/06/01 timeframe		Y-P	Y-UP	Yes - HPC can only provide this data element for planned troubles submitted by the P-CLEC. <i>No-The MTAS product or USOC is not available to HPC for unplanned troubles.</i> HPC can determine whether a dispatch was required. The dispatch indicator is provided to HPC on the CEMR Trouble

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
					<p>did repair require a tech to be dispatched? [Y/N]</p> <p>If a designed service, were both ends of the circuit in a High-Density region?</p> <p>If a non-designed service, was the repaired line at an address in an MSA?</p>	Y		<p>Y</p> <p>Y</p>	<p>Report (TR) Status in the TR Status section. The TR Status section indicator will be “dispatched out” or “dispatched in”.</p> <p><i>A high density region indicator was not provided to HPC</i></p> <p>MSA designation was not available to HPC.</p>
MR-9 (Non-designed)	Pct of Repair Appointments Met	incorporate all elements listed above for MTAS	Contribution: Was the Repair Appointment Met		Was the Repair Appt met?	Y			The cleared date/time and closed date/time is provided to HPC on the CEMR Trouble Report (TR) Status in the TR Status section. The TR Status section indicator will be “cleared” or “closed”. There is no “Repair Appt met” indicator provided to HPC on the CEMR Trouble Report status update.
			Excl: trouble reports coded to disposition codes for: Customer Action (6); Non-Telco Plant (11); Trouble Beyond the Network Interface(12); and Miscellaneous – Non-Dispatch, non-Qwest (includes CPE, Customer Instruction, Carrier, Alternate Provider (13);		Clearing Disposition Code for ALL troubles	Y			<i>The clearing disposition code is provided to HPC on the CEMR Trouble Report (TR) Status Close-out notification in the Comments Section. The indicator is a four digit disposition code (i.e., 1240 – this indicates the customer does not have a maintenance contract in USW (Qwest) bills both TIC (Trouble Isolation Charge and Time and Materials). There is also a three digit cause code available (i.e., 600)</i>

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
			Excl: trouble reports involving a "no access" delay		No Access identification for applicable troubles	Y			<i>The No Access identification is provided to HPC on the CEMR Trouble Report (TR) Status in the TR Status section. The TR Status indicator will be "no access" or "no accessed".</i>
			Excl: Installation-Day trouble reports before installation registered as complete in WFAC		trouble ticket submission datetime WFAC-installation completion registration datetime	Y		Y	Trouble submission date and time is available. HPC has the trouble report date and time submitted that is captured on the HPC RCE submission screen printout. WFAC installation completion time is not provided to the CLEC. Only the date.
MR-10 (Non-designed)	Customer and Non-Qwest Related Trouble Reports	incorporate all elements listed above for MTAS	Contribution: trouble reports coded to disposition codes for: Customer Action (6); Non-Telco Plant (11); Trouble Beyond the Network Interface(12); and Miscellaneous – Non-Dispatch, non-Qwest (includes CPE, Customer Instruction, Carrier, Alternate Provider (13);		Clearing Disposition Code for ALL troubles	Y			The clearing disposition code is provided to HPC on the CEMR Trouble Report (TR) Status Close-out notification in the Comments Section. The indicator is a four digit disposition code (i.e., 1240 – this indicates the customer does not have a maintenance contract in USW (Qwest) bills both TIC (Trouble Isolation Charge and Time and Materials). There is also a three digit cause code available (i.e., 600)

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
			Contribution: Number of Installations within past 2 calendar months	Exclude D, F, R order types	Obtainable from SOC's; exclude order numbers beginning with 'D' or 'R'	Y			<i>The Order type can be determined by reviewing the Qwest Order Number found in the Service Order Completion Notification in the column labeled Order Comp-Date.</i>
			Excl: trouble reports coded to disposition codes for: Customer Action (6); Non-Telco Plant (11); Trouble Beyond the Network Interface(12); and Miscellaneous – Non-Dispatch, non-Qwest (includes CPE, Customer Instruction, Carrier, Alternate Provider (13);		Clearing Disposition Code for ALL troubles	Y			The clearing disposition code is provided to HPC on the CEMR Trouble Report (TR) Status Close-out notification in the Comments Section. The indicator is a four digit disposition code (i.e., 1240 – this indicates the customer does not have a maintenance contract in USW (Qwest) bills both TIC (Trouble Isolation Charge and Time and Materials). There is also a three digit cause code available (i.e., 600)
			Excl: Installation-Day trouble reports before installation registered as complete in WFAC		trouble ticket submission datetime WFAC-installation completion registration datetime	Y		Y	Trouble submission date and time is available. HPC has the trouble report date and time submitted that is captured on the HPC RCE submission screen printout. WFAC installation completion time is not provided to the CLEC. Only the date.

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
	MR-4 (Any troubles cleared within 48 hrs), MR-5 (All Troubles Cleared within 4 hrs) MR-6 (Mean Time to Restore) MR-7 (Repair Repeat Report Rate) MR-8 (Trouble Rate) MR-10 (Customer and Non-Qwest Related Trouble Reports) OP-5 (New Service Installation Quality)								

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
			Extract 2: Report Type is 'CR' or 'RN'	CR= Customer Reported RN= Referred In, or Opened Internally	trouble reports opened by end-user or Qwest		Y-P	Y-UP	Yes - CGE&Y did document this information when it applied to a planned trouble. No - Unplanned trouble could only be determined from the adhoc.
			Extract 3: Trouble Found Code not 'INF'	Excludes Information tickets	N / A	N/A	N/A	N/A	N/A
			Disagg: State		N / A	N/A	N/A	N/A	N/A
			Disagg: CLEC_ID		N / A	N/A	N/A	N/A	N/A
			Disagg: Product Code		Product in Script and USOC submitted by P-CLEC incorporated into every LSR, FOC, REJ, and Status Update and SOC over 12/21/00 thru 07/06/01 timeframe including MR status update	Y-P		Y-UP	HPC can only provide this data element for planned troubles submitted by the P-CLEC. The WFAC product or USOC is not available to HPC for unplanned trouble.
			Disagg: Dispatch	Was Tech Dispatched out to resolve trouble? Was this trouble resolved by repairing a cable that may have been reported on a different line?	did repair require a tech to be dispatched? [Y/N]		Y-P	Y-UP	HPC can only provide this data element for planned troubles submitted by the P-CLEC. The dispatch indicator is provided to HPC on the CEMR Trouble Report (TR) Status in the TR Status section. The TR Status section indicator will be "dispatched out" or "dispatched in".
			Disagg: Design or Non-Design?	now based on majority for product	service designed or non-designed indicator		Y-P	Y-UP	HPC does not have access to WFAC data. CGE&Y did document this information when it applied to a planned trouble.



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Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
MR-3 (Designed)	Pct of Out-of Service Troubles which were cleared within 24 hrs	incorporate all elements listed above for WFAC	Contribution: Rcvd DateTime and Cleared DateTime		Trouble clear datetime; trouble received datetime			Y Y	<i>The WFAC trouble cleared date and time is not available to HPC. The trouble cleared date and time (TR State) is provided to the CLEC in CEMR. The CEMR trouble closed date and time (TR State) is also available.</i> <i>The WFAC trouble received date and time is not available to HPC. HPC has the trouble report date and time submitted that is captured on the HPC RCE submission screen printout.</i>
			Excl: trouble reports coded to trouble codes for Carrier Action (IEC) and Customer Provided Equipment (CPE).		Clearing Disposition Code for ALL troubles	Y			<i>The clearing disposition code is provided to HPC on the CEMR Trouble Report (TR) Status Close-out notification in the Comments Section. The indicator is a four digit disposition code (i.e., 1240 – this indicates the customer does not have a maintenance contract in USW (Qwest) bills both TIC (Trouble Isolation Charge and Time and Materials). There is also a three digit cause code available (i.e., 600)</i>
			Excl: repair time is reduced by amount of time taken up by any "no access" delays		time taken up by no access delays			Y	<i>There is no time taken up by no access delay data element provided by Qwest. In the CEMR Trouble Report (TR) Status section there is an indicator entitled "activity duration: non-billable: no access." This field is provided in days, hours, minutes, and seconds.</i>
			Excl: Installation-Day trouble reports before installation registered as complete in WFAC		trouble ticket submission datetime WFAC-installation completion registration datetime	Y		Y	Trouble submission date and time is available. HPC has the trouble report date and time submitted that is captured on the HPC RCE submission screen printout. WFAC installation completion data was extracted from the SU indicators but the time was extracted from the adhoc.
			Disagg: Dispatch, Product, Entity Class		Product in Script and USOC submitted by P-CLEC incorporated into every M&R status update, script, or M&R ICR Log	Y-P		Y-UP	HPC can only provide this data element for planned troubles submitted by the P-CLEC. The WFAC product or USOC is not available to HPC for unplanned trouble.

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
					contact over 12/21/00 thru 07/06/01 timeframe did repair require a tech to be dispatched? [Y/N] If a designed service, were both ends of the circuit in a High-Density region? If a non-designed service, was the repaired line at an address in an MSA?	Y		Y Y	HPC can determine whether a dispatch was required. The dispatch indicator is provided to HPC on the CEMR Trouble Report (TR) Status in the TR Status section. The TR Status section indicator will be “dispatched out” or “dispatched in”. A high density region indicator was not provided to HPC MSA designation was not available to HPC.
			Elig: Out-of-Service Trouble		Was trouble report an out-of-service report?	Y			<i>When a new trouble report is entered, by HPC, the out-of-service condition is determined by the Qwest RCE system. There is no out-of-service indicator provided on CEMR Trouble Report (TR) Status update.</i>
MR-4 (Designed)	Pct of Troubles which were cleared within 48 hrs	incorporate all elements listed above for WFAC	Contribution: Rcvd DateTime and Cleared DateTime		Trouble clear datetime; trouble received datetime	Y		Y	Trouble submission date and time is available. HPC has the trouble report date and time submitted that is captured on the HPC RCE submission screen printout. WFAC installation completion data was extracted from the SU indicators but the time was extracted from the adhoc.
			Excl: trouble reports coded to trouble codes for Carrier Action (IEC) and Customer		Clearing Disposition Code for ALL troubles	Y			<i>The clearing disposition code is provided to HPC on the CEMR Trouble Report (TR) Status Close-out notification in the Comments Section. The indicator is a four digit disposition code (i.e., 1240 – this indicates the customer does not have a maintenance contract in USW (Qwest) bills both TIC (Trouble Isolation Charge and Time and Materials).</i>

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			Provided Equipment (CPE).						<i>There is also a three digit cause code available (i.e., 600)</i>
			Excl: repair time is reduced by amount of time taken up by any "no access" delays		time taken up by no access delays			Y	<i>There is no time taken up by no access delay data element provided by Qwest. In the CEMR Trouble Report (TR) Status section there is an indicator entitled "activity duration: non-billable: no access." This field is provided in days, hours, minutes, and seconds.</i>
			Excl: Installation-Day trouble reports before installation registered as complete in WFAC		trouble ticket submission datetime WFAC-installation completion registration datetime	Y		Y	Trouble submission date and time is available. HPC has the trouble report date and time submitted that is captured on the HPC RCE submission screen printout. WFAC installation completion data was extracted from the SU indicators but the time was extracted from the adhoc.
			Disagg: Dispatch, Product, Entity Class		Product in Script and USOC submitted by P-CLEC incorporated into every M&R status update, script, or M&R ICR Log contact over 12/21/00 thru 07/06/01 timeframe did repair require a tech to be dispatched? [Y/N] If a designed service, were both ends of the circuit in a High-Density region?	Y-P Y		Y-UP Y	HPC can only provide this data element for planned troubles submitted by the P-CLEC. The WFAC product or USOC is not available to HPC for unplanned trouble. HPC can determine whether a dispatch was required. The dispatch indicator is provided to HPC on the CEMR Trouble Report (TR) Status in the TR Status section. The TR Status section indicator will be "dispatched out" or "dispatched in". A high density region indicator was not provided to HPC

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
					If a non-designed service, was the repaired line at an address in an MSA?			Y	MSA designation was not available to HPC.
MR-5 (Designed)	Pct of Troubles which were cleared within 4 hrs	incorporate all elements listed above for WFAC	Contribution: Rcvd DateTime and Cleared DateTime		Trouble clear datetime; trouble received datetime	Y		Y	Trouble submission date and time is available. HPC has the trouble report date and time submitted that is captured on the HPC RCE submission screen printout. WFAC installation completion data was extracted from the SU indicators but the time was extracted from the adhoc.
			Excl: trouble reports coded to trouble codes for Carrier Action (IEC) and Customer Provided Equipment (CPE).		Clearing Disposition Code for ALL troubles	Y			<i>The clearing disposition code is provided to HPC on the CEMR Trouble Report (TR) Status Close-out notification in the Comments Section. The indicator is a four digit disposition code (i.e., 1240 – this indicates the customer does not have a maintenance contract in USW (Qwest) bills both TIC (Trouble Isolation Charge and Time and Materials). There is also a three digit cause code available (i.e., 600)</i>
			Excl: repair time is reduced by amount of time taken up by any "no access" delays		time taken up by no access delays			Y	<i>There is no time taken up by no access delay data element provided by Qwest. In the CEMR Trouble Report (TR) Status section there is an indicator entitled "activity duration: non-billable: no access." This field is provided in days, hours, minutes, and seconds.</i>
			Excl: Installation-Day trouble reports before installation registered as complete in WFAC		trouble ticket submission datetime WFAC-installation completion registration datetime	Y		Y	Trouble submission date and time is available. HPC has the trouble report date and time submitted that is captured on the HPC RCE submission screen printout. WFAC installation completion data was extracted from the SU indicators but the time was extracted from the adhoc.

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
			Equipment (CPE).						<i>There is also a three digit cause code available (i.e., 600)</i>
			Excl: repair time is reduced by amount of time taken up by any "no access" delays		time taken up by no access delays			Y	<i>There is no time taken up by no access delay data element provided by Qwest. In the CEMR Trouble Report (TR) Status section there is an indicator entitled "activity duration: non-billable: no access." This field is provided in days, hours, minutes, and seconds.</i>
			Excl: Installation-Day trouble reports before installation registered as complete in WFAC		trouble ticket submission datetime WFAC-installation completion registration datetime	Y		Y	Trouble submission date and time is available. HPC has the trouble report date and time submitted that is captured on the HPC RCE submission screen printout. WFAC installation completion data was extracted from the SU indicators but the time was extracted from the adhoc.
			Disagg: Dispatch, Product, Entity Class		Product in Script and USOC submitted by P-CLEC incorporated into every M&R status update, script, or M&R ICR Log contact over 12/21/00 thru 07/06/01 timeframe did repair require a tech to be dispatched? [Y/N] If a designed service, were both ends of the circuit in a High-Density region?	Y-P Y		Y-UP Y	HPC can only provide this data element for planned troubles submitted by the P-CLEC. The WFAC product or USOC is not available to HPC for unplanned trouble. HPC can determine whether a dispatch was required. The dispatch indicator is provided to HPC on the CEMR Trouble Report (TR) Status in the TR Status section. The TR Status section indicator will be "dispatched out" or "dispatched in". A high density region indicator was not provided to HPC

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
					If a non-designed service, was the repaired line at an address in an MSA?			Y	MSA designation was not available to HPC.
MR-7 (Designed)	Repair Repeat Report Rate	incorporate all elements listed above for WFAC	Contribution: Previous trouble within 30 days?		Was there a previous trouble within 30 days?		Y-P	Y-UP	The TA documents planned troubles but may not know the unplanned reports. When a new ticket is entered, the Display Abbreviated Trouble History (DATH) for the account is displayed. The Abbreviated Trouble History provides the date/time reported, date/time cleared, final disposition, and a trouble report narrative. These fields are provided on the RCE (Repair Call Expert) Pre Submittal process screens (HPC paper records) See Flag 1. The DATH also provides the (Qwest) Repair Person (RP) and the Qwest Closing Person (CP)
			Excl: trouble reports coded to trouble codes for Carrier Action (IEC) and Customer Provided Equipment (CPE).		Clearing Disposition Code for ALL troubles	Y			<i>The clearing disposition code is provided to HPC on the CEMR Trouble Report (TR) Status Close-out notification in the Comments Section. The indicator is a four digit disposition code (i.e., 1240 – this indicates the customer does not have a maintenance contract in USW (Qwest) bills both TIC (Trouble Isolation Charge and Time and Materials). There is also a three digit cause code available (i.e., 600)</i>
			Excl: Installation-Day trouble reports before installation registered as complete in WFAC		trouble ticket submission datetime WFAC-installation completion registration datetime	Y		Y	Trouble submission date and time is available. HPC has the trouble report date and time submitted that is captured on the HPC RCE submission screen printout. WFAC installation completion data was extracted from the SU indicators but the time was extracted from the adhoc.
			Disagg: Dispatch, Product, Entity Class		Product in Script and USOC submitted by P-CLEC incorporated into every M&R status update, script, or M&R ICR Log <small>contact over 12/21/00</small>	Y-P		Y-UP	HPC can only provide this data element for planned troubles submitted by the P-CLEC. The WFAC product or USOC is not available to HPC for unplanned trouble.

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
					contact over 12/21/00 thru 07/06/01 timeframe did repair require a tech to be dispatched? [Y/N] If a designed service, were both ends of the circuit in a High-Density region? If a non-designed service, was the repaired line at an address in an MSA?	Y		Y Y	HPC can determine whether a dispatch was required. The dispatch indicator is provided to HPC on the CEMR Trouble Report (TR) Status in the TR Status section. The TR Status section indicator will be “dispatched out” or “dispatched in”. A high density region indicator was not provided to HPC MSA designation was not available to HPC.
MR-10 (Designed)	Customer and Non-Qwest Related Trouble Reports	incorporate all elements listed above for WFAC	Contribution: trouble reports coded to trouble codes for Carrier Action (IEC) and Customer Provided Equipment (CPE).		Clearing Disposition Code for ALL troubles	Y			<i>The clearing disposition code is provided to HPC on the CEMR Trouble Report (TR) Status Close-out notification in the Comments Section. The indicator is a four digit disposition code (i.e., 1240 – this indicates the customer does not have a maintenance contract in USW (Qwest) bills both TIC (Trouble Isolation Charge and Time and Materials). There is also a three digit cause code available (i.e., 600)</i>
			Disagg: Dispatch, Product, Entity Class		Product in Script and USOC submitted by P-CLEC incorporated into every M&R status update, script, or M&R ICR Log contact over 12/21/00 thru 07/06/01 timeframe	Y-P		Y-UP	HPC can only provide this data element for planned troubles submitted by the P-CLEC. The WFAC product or USOC is not available to HPC for unplanned trouble.

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
					<p>did repair require a tech to be dispatched? [Y/N]</p> <p>If a designed service, were both ends of the circuit in a High-Density region?</p> <p>If a non-designed service, was the repaired line at an address in an MSA?</p>	Y		<p>Y</p> <p>Y</p>	<p>HPC can determine whether a dispatch was required. The dispatch indicator is provided to HPC on the CEMR Trouble Report (TR) Status in the TR Status section. The TR Status section indicator will be “dispatched out” or “dispatched in”.</p> <p>A high density region indicator was not provided to HPC</p> <p>MSA designation was not available to HPC.</p>
OP-5 (Designed)	Pct of New Installations with no troubles in first 30 days since installation	incorporate all elements listed above for WFAC and RSOR	Contribution: Was trouble within 30 days of installation?		link to relevant SOC; SOC completion date; trouble received date		Y-P	Y-UP	<p>HPC can only provide this data element on planned troubles submitted by the P-CLEC.</p> <p>The RCE (Repair Call Expert) pre-submittal process provides the Last Order Completion Date and the Qwest order number. HPC is not aware if the SOC completion date is the same as the Last Order Completion Date. HPC has the trouble report date and time submitted that is captured on the HPC RCE submission screen printout.</p>
			Contribution: Number of Installations within past 2 calendar months	Exclude D, F, R order types	Obtainable from SOC's; exclude order numbers beginning with 'D' or 'R'	Y			The Order type can be determined by reviewing the Qwest Order Number found in the Service Order Completion Notification in the column labeled Order Comp-Date..

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
			Excl: trouble reports coded to trouble codes for Carrier Action (IEC) and Customer Provided Equipment (CPE).		Clearing Disposition Code for ALL troubles	Y			<i>The clearing disposition code is provided to HPC on the CEMR Trouble Report (TR) Status Close-out notification in the Comments Section. The indicator is a four digit disposition code (i.e., 1240 – this indicates the customer does not have a maintenance contract in USW (Qwest) bills both TIC (Trouble Isolation Charge and Time and Materials). There is also a three digit cause code available (i.e., 600)</i>
			Excl: Installation-Day trouble reports before installation registered as complete in WFAC		trouble ticket submission datetime WFAC-installation completion registration datetime	Y		Y	Trouble submission date and time is available. HPC has the trouble report date and time submitted that is captured on the HPC RCE submission screen printout. WFAC installation completion data was extracted from the SU indicators but the time was extracted from the adhoc.

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
	MR-8 (Trouble Rate)								
			Extract 2: Action Code = 'IE'		N/A	N/A	N/A	N/A	N/A
			Extract 3: Circuit ID other than 'POTS'		N/A	N/A	N/A	N/A	N/A
			Extract 4: positions 12,13,14 of CKTID other than '999'		Circuit ID for all installed circuits and completion and disconnect dates	Y			HPC had access to this data as part of the functionality test data.
			Disagg: CLEC_ID		N/A	N/A	N/A	N/A	N/A
			Disagg: Product Code		Product in Script and USOC submitted by P-CLEC incorporated into every LSR, FOC, REJ, and Status Update and SOC over 12/21/00 thru 07/06/01 timeframe including MR status update	Y-P		Y-UP	HPC can only provide this data element for planned troubles submitted by the P-CLEC. The WFAC product or USOC is not available to HPC for unplanned trouble.
			Disagg: Dispatch	Was Tech Dispatched to perform installation	did repair require a tech to be dispatched? [Y/N]	Y			HPC can determine whether a dispatch was required. The dispatch indicator is provided to HPC on the CEMR Trouble Report (TR) Status in the TR Status section. The TR Status section indicator will be "dispatched out" or "dispatched in".
			Disagg: Design or Non-Design?	now based on majority for product	service designed or non-designed indicator		Y-P	Y-UP	Yes - HPC can only provide this data element for planned troubles submitted by the P-CLEC. No -The MTAS product or USOC is not available to HPC for

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo- CLEC Data Available via the Gateway Notifiers	Pseudo- CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
									unplanned trouble.
			Exclusion 3: All non-Qwest states		N / A	N/A	N/A	N/A	N/A
			Exclusion 2: Unknown Product Code		Product in Script and USOC submitted by P-CLEC incorporated into every LSR, FOC, REJ, and Status Update and SOC over 12/21/00 thru 07/06/01 timeframe including MR status update	Y-P		Y-UP	HPC can only provide this data element for planned troubles submitted by the P-CLEC. The WFAC product or USOC is not available to HPC for unplanned trouble.
			Exclusion 4: Test CLEC		N/A	N/A	N/A	N/A	N/A
L_CNT_D , MCNT	Data Source for following PID M&R measurements on Non-Designed services: MR-8 (Trouble Rate)		Extract 1: MUID not 'O' or 'P'	Excludes Official Services and Public Coin phone lines	N / A	N/A	N/A	N/A	N/A
			Extract 2: Positions 1 thru 3 of NMC (Network Management field) other than 'D11'		N / A	N/A	N/A	N/A	N/A

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
			Extract 3: Class of Service other than 8, 9, or 19		Product in Script and USOC submitted by P-CLEC incorporated into every LSR, FOC, REJ, and Status Update and SOC over 12/21/00 thru 07/06/01 timeframe including MR status update	Y-P		Y-UP	HPC can only provide this data element for planned troubles submitted by the P-CLEC. The WFAC product or USOC is not available to HPC for unplanned trouble.
			Disagg: CLEC_ID		N / A	N/A	N/A	N/A	N/A
			Disagg: Product Code		Product in Script and USOC submitted by P-CLEC incorporated into every LSR, FOC, REJ, and Status Update and SOC over 12/21/00 thru 07/06/01 timeframe including MR status update	Y-P		Y-UP	HPC can only provide this data element for planned troubles submitted by the P-CLEC. The WFAC product or USOC is not available to HPC for unplanned trouble.
			Disagg: Dispatch	Was Tech Dispatched to perform installation	did repair require a tech to be dispatched? [Y/N]	Y			HPC can determine whether a dispatch was required. The dispatch indicator is provided to HPC on the CEMR Trouble Report (TR) Status in the TR Status section. The TR Status section indicator will be "dispatched out" or "dispatched in".
			Disagg: Design or Non-Design?	now based on majority for product	service designed or non-designed indicator		Y-P	Y-UP	Yes - HPC can only provide this data element for planned troubles submitted by the P-CLEC. No -The MTAS product or USOC is not available to HPC for unplanned trouble.
			Exclusion 1: Non-ISDN Product (other than ISDN BRS or ISDN PRI in NC codes table)		N / A	N/A	N/A	N/A	N/A

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
			Exclusion 3: All non-Qwest states		N / A	N/A	N/A	N/A	N/A
			Exclusion 2: Unknown Product Code		Product in Script and USOC submitted by P-CLEC incorporated into every LSR, FOC, REJ, and Status Update and SOC over 12/21/00 thru 07/06/01 timeframe including MR status update	Y-P		Y-UP	HPC can only provide this data element for planned troubles submitted by the P-CLEC. The WFAC product or USOC is not available to HPC for unplanned trouble.
			Exclusion 4: Test CLEC		N/A	N/A	N/A	N/A	N/A
MR-8	Trouble Rate	incorporate all elements listed above for WFAC and WCNT for design services and MTAS and MCNT for non-designed services	Contribution Numerator: Trouble eligible for MR-7 (MR-7 denominator)		see MR-7 above for both designed and non-designed products	N/A	N/A	N/A	All above requirements for MR-7 are required for MR-8. Refer to MR-7 for missing elements.
			Excl(Designed service tickets): trouble reports coded to trouble codes for Carrier Action (IEC) and Customer Provided Equipment (CPE).		Clearing Disposition Code for ALL troubles	Y			<i>The clearing disposition code is provided to HPC on the CEMR Trouble Report (TR) Status Close-out notification in the Comments Section. The indicator is a four digit disposition code (i.e., 1240 – this indicates the customer does not have a maintenance contract in USW (Qwest) bills both TIC (Trouble Isolation Charge and Time and Materials). There is also a three digit cause code available (i.e., 600)</i>

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
			Excl (Design Service tickets): Installation-Day trouble reports before installation registered as complete in WFAC		trouble ticket submission datetime WFAC-installation completion registration datetime	Y		Y	Trouble submission date and time is available. HPC has the trouble report date and time submitted that is captured on the HPC RCE submission screen printout. WFAC installation completion data was extracted from the SU indicators but the time was extracted from the adhoc.
			Excl (Non-Designed Service tickets): trouble reports coded to disposition codes for: Customer Action (6); Non-Telco Plant (11); Trouble Beyond the Network Interface(12); and Miscellaneous – Non-Dispatch, non-Qwest (includes CPE, Customer Instruction, Carrier, Alternate Provider (13);		Clearing Disposition Code for ALL troubles	Y			<i>The clearing disposition code is provided to HPC on the CEMR Trouble Report (TR) Status Close-out notification in the Comments Section. The indicator is a four digit disposition code (i.e., 1240 – this indicates the customer does not have a maintenance contract in USW (Qwest) bills both TIC (Trouble Isolation Charge and Time and Materials). There is also a three digit cause code available (i.e., 600)</i>
			Excl (Non-Designed Service Tickets): Installation-Day trouble reports before installation		trouble ticket submission datetime WFAC-installation completion registration datetime	Y		Y	Trouble submission date and time is available. HPC has the trouble report date and time submitted that is captured on the HPC RCE submission screen printout. WFAC installation completion data was extracted from the SU indicators but the time was extracted from the adhoc.

Data Source or PID Measure Code	Description	Incorporate Information from Following Other Rows	Required Data Elements / Exclusion	Element Description / Notes	Corresponding Pseudo-CLEC Data Element	Pseudo-CLEC Data Available via the Gateway Notifiers	Pseudo-CLEC Data Available Other Means	Data Available Qwest Adhoc Only	HP Comments on Availability of Element via the Gateway Notifier <i>CGE&Y Comments on Ultimate Source for the Data Element</i>
			installation registered as complete in WFAC						
			Contribution Denominator: Number of Lines or Circuits (for the product disaggregation)		inventory of lines / circuits installed at the end of each calendar month by product			Y	HPC was not provided this data element.
			Disagg: Product Code		Product in Script and USOC submitted by P-CLEC incorporated into every LSR, FOC, REJ, and Status Update and SOC over 12/21/00 thru 07/06/01 timeframe including MR status update	Y-P		Y-UP	HPC can only provide this data element for planned troubles submitted by the P-CLEC. The WFAC product or USOC is not available to HPC for unplanned trouble.
BI-1/4	Billing			Calculated from pseudo-CLEC data	ADUF	Y			
					ODUF	Y			
					Electronic CRIS Bills	Y			
					Loss Reports	Y			
					Completion Reports	Y			
GA-1/2	Gateway Availability			Calculated from pseudo-CLEC data	Gateway Outage Logs	Y			HPC did not monitor the gateway availability for the duration of the up hours and did not open a trouble report with Qwest when experiencing an outage.

Appendix B - Glossary

Abbreviation	Description
ACC	Arizona Corporation Commission
CGE&Y	Cap Gemini Telecom, Media & Networks U.S., Inc.
CLEC	Competitive Local Exchange Carrier
DCI	Doherty Company Incorporated
HP	Hewlett-Packard Consulting
IWO	Incident Work Order
MTP	Master Test Plan
OSS	Operations Support Systems
PID	Performance Indicator Definitions
PMA	Performance Measurement Audit
TA	Test Administrator
TAG	Test Advisory Group
TSD	Test Standards Document